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ABSTRACT

Since the beginning of the Asian Development Bank's involvement in education in 1970 up to December 1987, 35 education loans to its developing member countries (DMCs) have been approved. The general aim of this paper is to determine the direction of the bank's future policy in assisting education. Among the main reasons for reviewing the bank's role are the following: (1) the continued low enrollment ratios in basic education as well as low adult literacy rates in a number of DMCs; (2) the need for structural reforms in the education sector; (3) the changing economic conditions in the region; and (4) the surfacing of innovative areas of educational interest such as environmental education, distance education, and women's education. Chapter 1 provides a background analysis relevant to the education sector and development assistance in the region by describing the regional setting and analyzing the relationship between development and education. Chapter 2 reviews the present status of and ongoing development trends in education in the region and analyzes key issues and tasks ahead. Chapter 3 has three objectives: a review of the bank's past policy and performance in assisting education development in the region; a brief overview of other agencies' regional assistance operations in the sector; and an outline of the bank's future assistance policies and priorities. Relevant data is presented in ten appendixes. (68 references) (MLF)

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EDUCATION AND DEVELOPMENT IN ASIA AND THE PACIFIC

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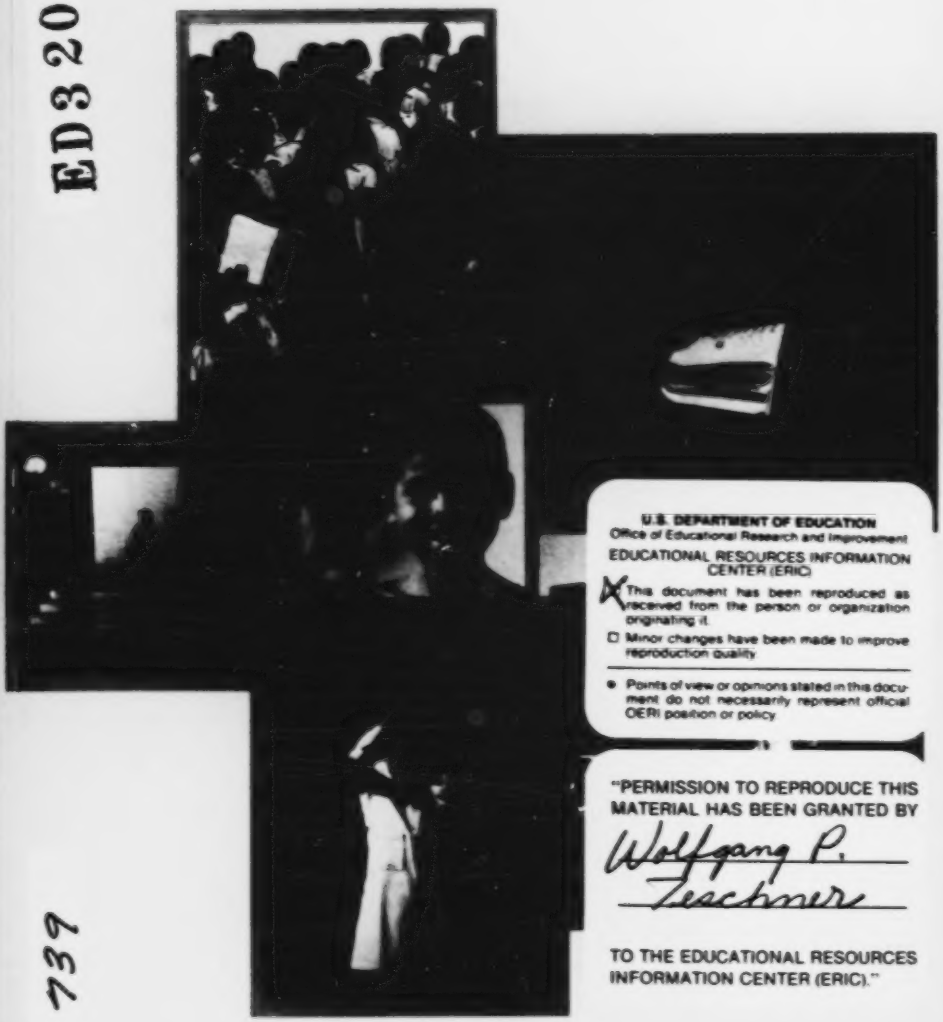

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INTRODUCTION

1. Since the beginning of the Bank's involvement in education in 1970 up to December 1987, 35 education loans to its developing member countries (DMCs) have been approved. In the initial years, the Bank was fully aware of its limited role in the comprehensive and concerted national, bilateral and multilateral assistance efforts, and a selective and cautious approach was adopted. The experience gained during the last 18 years of operations in the education sector, however, is now sufficiently broad for an assessment of past policy and performance, and to enable the definition, more systematically, of the basic thrust and rationale for future Bank assistance operations. In spite of encouraging achievements in education development in DMCs in general, and the Bank's assistance efforts in particular, severe problems pertaining to education in the region persist. In addition, many external circumstances have changed considerably during recent years and with them the Bank's perception and ability to respond to these changes.

2. Among the main reasons for reviewing the Bank's role in assisting education development, its policies and priorities, are the following:

(i) the continued low enrollment ratios in basic education as well as low adult literacy rates in a number of DMCs;

(ii) the need for structural reforms in the education sector and for policy-based lending to some DMCs;

(iii) the changing economic conditions in the region, particularly in the way goods and services are being produced, including the rapid growth of information technology and its transformation of traditional production patterns;

(iv) surfacing of innovative areas of educational interest, e.g. environmental education, population education, nonformal education, distance education, and women's education which, in the past, have not played any role in the Bank's operations;

(v) the need to review lending to other subsectors apart from the Bank's traditional subsectors, such as technical and vocational education;

(vi) increasing doubts about the appropriateness of applying development models linked to the concept of industrial growth and the manpower-demand approach as predominant guiding principles for Bank assistance in the sector;

(vii) dissatisfaction with the past approach of case-by-case project identification and, in contrast, the more recent encouraging experience with expanded sector work as a basis for Bank lending for education;

(viii) the deteriorating external debt situation of some DMCs which is forc-

ing them to search for low-cost alternatives and to make more effective use of local resources;

(ix) the needs of potential new borrowers, e.g. the People's Republic of China and India, which might substantially affect overall Bank policy; and

(x) absence of any significant assistance to certain subregions, particularly the South Pacific DMCs and the non-ASEAN Southeast Asian countries, some of which have articulated their discontent.

3. While perhaps not all of these reasons per se might be compelling enough to justify a comprehensive review of the Bank's operations in the education sector, together they represent a significantly changed operational environment calling for appropriate responses from the Bank.

4. The general aim of this Paper is to determine the direction of the Bank's future policy in assisting education. To this end, three steps are undertaken, reflected in the three Chapters of the Paper, each of them with specific objectives, as follows:

(i) Chapter I provides a background analysis relevant to the education sector and development assistance in the region. Firstly, it describes the regional setting; and secondly, it analyzes the relationship between development and education.

(ii) Chapter II has two objectives: a review of the present status of and ongoing development trends in education in the region; and the analysis of key issues and tasks ahead. The Chapter is meant both as an inventory and an analytical framework for decision makers from DMCs as well as from development assistance agencies, particularly the Bank.

(iii) Chapter III, finally, has three objectives: a review of the Bank's past policy and performance in assisting education development in the region; a brief overview on other agencies' regional external assistance operations in the sector; and an outline of the Bank's future sectoral assistance policies and priorities.

5. The Paper was prepared under a regional technical assistance (RETA).[1] It draws on the Bank's operational experience, making use of appraisal and evaluation reports, and of sector studies and economic reports. In addition, UNESCO and World Bank statistics and sector studies referring to the Asia-Pacific region, as well as specific sources from DMCs, were extensively used.

[1] RETA 5240 "Review of Education", approved on 9 January 1987.

6. The Paper was written by Wolfgang P. Teschner in close consultation with other Bank staff, mainly from the Education Division. Substantial inputs into the various drafts of the Paper were provided by staff consultants under the RETA, particularly by Alexander B. Gorham and David N. Wilson (Comparative Education), by Ian P. Morris (Economics of Education) and by Martin M. Carnoy (Economics of Education and Education Policies). Teresita de Leon assisted in data collection, processing and presentation; and Maripe G. Juliano and Teresa N. Carreon typed the manuscript.

7. Working papers produced under the RETA were reviewed and discussed at a Panel Meeting of international experts from the Bank's DMCs and from multilateral assistance agencies, including the World Bank, UNESCO and ILO. A cross section of staff from Bank Departments concerned participated in the discussions on the Panel Meeting and drafts of the Paper were circulated for interdepartmental review. Finally, valuable comments were obtained during consultation missions, especially from Wadi D. Haddad (World Bank) and Makaminan Makagiansar (UNESCO).

CHAPTER I

BACKGROUND TO THE EDUCATION SECTOR

CHAPTER I

BACKGROUND TO THE EDUCATION SECTOR

A. THE REGIONAL SETTING

1. Geographic and Demographic Conditions

8. The region formed by the 29 DMCs, stretching from the Afghanistan-Iran border in the west to the Cook Islands in the east, and the Maldives in the southwest to the Sino-Soviet border in the northeast, spans 130 degrees of longitude and more than 70 degrees of latitude, and covers six time zones in two hemispheres. The combined land area of these DMCs is about 20 million square kilometers or nearly 15 per cent of the earth's total. However, if one includes the ocean environment within which the South Pacific developing member countries (SPDMCs)[1] are located, the total area comprising the region increases to approximately 35 million square kilometers.

9. The total population of the DMCs exceeds 2.5 billion people, which is about half of the world's population. Great demographic disparities, however, exist within the region. Over 70 per cent of the total DMC population is concentrated in two countries — the People's Republic of China (PRC) and India — whereas all SPDMCs combined account for only 0.2 per cent of the DMC population. The country with the highest population of more than one billion is the PRC, and that with the lowest is the Cook Islands, with around 17,000 people. Also, population density (not including the two almost entirely urban DMCs, Hong Kong and Singapore) displays extreme variations from about eight persons per square kilometer in Papua New Guinea (PNG) to more than 700 in Bangladesh. Certain countries in the DMC region have made significant progress in reducing population growth rates in the past decade. This has been particularly noticeable in the newly industrializing countries (NICs) and in the PRC. Nevertheless, the population problem in the region will continue to overshadow socioeconomic development in the foreseeable future and almost all countries will experience large absolute population increases in the coming decade.

10. Age structure and growth rate of the population are key factors which will determine future educational requirements in the region, and the ability of the countries to finance the costs involved. On average, the percentage of population in the age group 0 to 14 years in the DMC region is about 38, while

[1] The SPDMCs comprise the following eight countries: Cook Islands, Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga, Vanuatu and Western Samoa.

that in the economically productive ages of 15 to 64 years is about 57. Corresponding figures for developed countries are, typically, 25 and 65 per cent, respectively. However, there are important differences between subregions. In South Asia and the South Pacific, for example, where population growth rates are highest, up to 45 per cent of the population are below the age of 15, and little more than half the population is in the age range of 15 to 64 years. In these subregions the burden of schooling one child is shouldered by averagely one adult of productive age, whereas two adults share this in the developed world. Under prevailing demographic trends the relative burden of educating primary and lower secondary school cohorts will increase significantly in the South Asian and South Pacific subregions.

2. Historical and Cultural Background

11. The education systems of most DMCs continue to be influenced, to a greater or lesser degree, by a colonial experience dating back to the 17th century. The provision of formal schooling following western models, which began with the Christian missions and was later taken over, often only reluctantly, by colonial governments, represents the main institutional framework within which western values and social practices were introduced and promoted in the region. As in Europe at that time, education was socially stratified, highly selective and directly linked to a reward system through employment in public service and colonial administration. However, the nature of colonial government was a factor determining the extent to which western education was introduced. Indirect rule, as applied, for instance, in much of the Dutch East Indies, limited enrollments to the children of local rulers, traditional authorities and prominent Eurasians, while on the subcontinent the application of colonial rule in the British Provinces of India was extensive, and requirements for locally educated administrative assistants expanded with the growth of the Indian Civil Service.

12. The objectives of colonial education reflected the perceived role of colonial subjects in the future development of the imperial system. In India, Peninsular Southeast Asia and Indochina, educational facilities in rural areas remained undeveloped. In the 19th and early 20th centuries mass education did not exist in European countries, and thus, little thought was given to establishing such a system in the colonies. Instead, the preparation of a group of individuals who would act as intermediaries between the colonial authorities and traditional rulers and colonial subjects, and serve as an example of the benefits offered by a "civilized" society, became the central theme of most colonial education policies in the region. Although highly stratified and selective, access to the highest reaches of western education were made available to individuals from the colonies as early as the mid-19th century and many of the nationalist leaders of the early 20th century were educated at British, French, Dutch or American universities. This, in turn, was made possible by the ap-

plication of a language policy in colonial education which did not, in most cases, prohibit the use of local languages and dialects in primary schools, but effectively restricted access to the crucial intermediate and senior levels of the education systems to those who spoke the metropolitan language. Since such schools were located, almost exclusively, in the larger administrative centers, the development of an educated middle class was, from the outset, an urban phenomenon and the availability of educational facilities became a factor in the movement of people from rural to urban areas.

13. In a region of great ethnic, cultural and religious diversity the uneven distribution of educational facilities in the colonial period meant that certain areas and groups were more exposed to, and influenced by, western schooling than others. The Tamils of South India and Ceylon[1], and the Chinese of Malaya[2] and Singapore, for example, subscribed to western education at an early stage of colonialism and were relatively better placed to take advantage of subsequent opportunities for specialist training and higher education as these became available. This development was largely supported by the colonial system, which was itself elitist and initially viewed the emergence of an educated elite in the colonies as beneficial to its long-term interests. While this view began to be questioned in the 1920s and 1930s, when individuals from these elites started to examine more closely the underlying motives and intentions of the colonial system, little attention was directed towards the basic divisiveness of educational policy in terms of which groups received education and which did not. This, ultimately, led to the belief in colonial circles that certain ethnic groups were more interested in education than others when, in fact, interest was largely a result of the initial pattern of provision. As the manpower requirements of colonial administrations increased, so too did the demand for education among those who recognized its economic and social mobility function. Unable to meet the costs from colonial budgets, private education run by local interests emerged. This further strengthened the educational position of specific areas and groups, while others were largely bypassed.

14. Since independence and, more pronounced, the early 1960s, many of the DMCs have attempted to alter the structure and content of formal education in the region. In part, these efforts were addressed to correct deficiencies which can be directly related to the previous colonial system. The creation of a national school system, with equal opportunities for all, was perhaps the most important objective of educational policy during this period. A second immediate objective was to redress the regional and ethnic imbalances created by

[1] Now Sri Lanka.
[2] Now Malaysia.

the selective provision of educational facilities in the colonial period. It was recognized that building schools and providing teachers were not enough. Compensatory programs, preferential access to higher levels of the system and specific policies to promote increased participation in particular areas were introduced to ensure that historically disadvantaged groups gained equal opportunities to participate in future educational development.

15. While during the immediate post-independence period the formal school systems in many DMCs were essentially imported models, not all of the changes in educational structures and content which have taken place in the past 30 years were simply a response or reaction to the colonial legacy. The politics of the post-independence period and the perceived requirements of economic development have resulted in education becoming increasingly a political issue in many countries, and a wide range of innovative approaches to educational provision, designed to meet the demand for basic education and contemporary manpower requirements have been made. In the past decade, the increasing emphasis on traditional cultural and religious traditions has also been reflected in the education systems of a number of DMCs. In Moslem countries, for instance, Islamic studies at all levels of the system received greater emphasis.

16. Thus, while remnants of the colonial era remain visible in the existing school systems of the region, other problems facing educators stem from developments in the post-colonial period. Where, for example, the economy of DMCs continues to be effectively controlled by external forces and interests, the ability of countries to finance the costs of education, like other development efforts, is directly affected by prevailing commodity prices, foreign investment policies and trade regulations. At the same time, where countries were unable or unwilling to support equal educational opportunities for all, the education system will be coopted by those who long ago recognized the importance of schooling for social mobility and economic rewards.

3. The Economic Context

17. The overall economic situation of the Bank's DMCs is characterized by a salient contrast. Economic performance today, in terms of GDP growth, inflation, current account, export performance, and external debt situation compares favorably with the average performance of the entire developing world.

Table 1: Economic Indicators of Developing World and DMCs

Indicator	Developing World		DMCs	
	1986	1987	1986	1987
GDP Growth Rate (%)	4.1	3.1	6.6	6.8
Inflation Rate (%)	29.0	35.7	5.5	6.4
Current Account ($ billion)	−47.0	−19.6	4.9	15.3
Exports (Growth Rate: %)	−7.1	16.4	10.1	27.5
External Debt Outstanding (as percentage of exports of goods and services)	171	164	100	90
Debt Service Ratio	24.7	23.2	13.8	12.1

Source: ADB, *Annual Report* 1987.[1]

Growth indicators, however, refer only to the magnitude and speed of development, not necessarily to its quality and direction; and the speed of a train, to use a simple metaphor, becomes only a relevant indicator after one is sure about its destination. Therefore it is important to note that the Bank's DMCs, on the other hand, constitute the region of the world where absolute poverty, in the early 1980s, was most widespread; two-thirds of all people below the absolute poverty line were in Asia, with the majority in South Asia, particularly in India and Bangladesh.[2] According to recent estimates,[3] around 600 million Asians live in absolute poverty, which is about equal to the combined population of Western Europe, Australia, Canada, New Zealand and United States. Certainly, any development policy which takes account of only the handsome side of this coin can only be wrong. Given the repeatedly demonstrated and well-known direct correlations between poverty and lack of education as well as between level of education and economic performance, economic development assistance must necessarily focus on education development.

18. During the 25 years from 1960 to 1985, economic growth in Asia was more rapid than in any other country grouping except the high-income oil exporters. This rapid growth is observed even for low-income Asian economies as a whole, whose average performance was dominated by the PRC and India. The difference in growth between Asian economies and the rest of the world was accentuated after the oil shocks of 1973 and 1979.[4] Asia was little affected by the recession in industrialized countries and the rise in real in-

[1] For the complete quotation of sources see Annex K.
[2] World Bank, 1980(a).
[3] ADB, 1987(a).
[4] For details see Annex A (Percentage Growth Rate of Real GDP of Industrial and Developing Countries 1960-1983).

terest rates that drove Latin America and Africa into debt crises and negative economic growth after 1980, and most countries in Asia did not borrow heavily in the 1970s to finance development. Their strategies have been generally successful in achieving relatively high economic growth rates and, generally, sustaining them into the troubled 1980s. Except for Afghanistan, Cambodia (both with long periods of war), Philippines and some of the Pacific Islands, the economic growth of DMCs was impressive in the 1980-1985 period.[1]

19. The industrialization strategies and general economic conditions in DMCs provide the economic context for analyzing their educational policies and the direction that future human capital development could take. There are certain features of the growth patterns in the region and the various economies' present structure which allow to divide them into country groupings with similar economic characteristics in order to analyze, based on economic criteria, educational investment strategies for the maximization of future economic growth. However, countries do not spend on education, only to maximize economic growth. There are a number of other reasons for the observed educational investment patterns in various countries, such as colonial legacies, political considerations of equity, social demand from some groups and not others, the need to develop certain kinds of skills in a particular stage of development, or simply to modernize their societies. All these are potential explanations of variations in educational expansion patterns among countries with similar economic structures and patterns of growth.

20. Among the most salient indicators which can be used to classify DMCs according to their general economic conditions and industrialization strategies, with special relevance to human resource development and education, are the following:[2] population size; GDP p.c., GDP growth, and GDP share from industrial production; distribution of the labor force between manufacturing and agriculture; percentage of exports from manufactured goods; and percentage of the female labor force. Another very important aspect, which is partly reflected in these indicators, is the position of each country among the high technology-producing economies of the world and the degree to which it has adopted information technology and modern automated processes for production. On the basis of these characteristics, DMCs can be classified into the following six categories:[3]

---

[1] For details see Annex A (Percentage Growth Rate of Real GDP of Industrial and Developing Countries 1960-1983) and Annex B (Economic Indicators of DMCs in the Early or Mid-1980s).

[2] See Annex B (Economic Indicators of DMCs in the Early or Mid-1980s) and Annex C (Percentage Share of Labor Force among Economic Activities in 1965 and 1980 in DMCs).

[3] These categories will be used for the analysis of the relationship between labor market trends and education development policies in paras. 43 to 60 below.

(i) Large, low-income, autarkic nations, self-sufficient in agricultural production and producing a wide range of manufactured goods, including heavy industry products, for domestic consumption, and with the scientific personnel base to develop their own high technology products. These countries have the potential to become the highly industrialized, big economic powers of the region. Into this category fall the PRC and India which are inhabited by more than one-third of the world's total population.

(ii) Rapidly industrializing exporters of manufactured goods with relatively high income per capita and the capability to manufacture sophisticated high technology products, competitive in world markets. The "four tigers" — Hong Kong, Republic of Korea, Singapore and Taipei,China — and Malaysia are the Asian countries incorporated at the highest tier into the emerging new international division of labor created by the information revolution. They are producing information-based hardware and software for international markets.

(iii) Industrializing manufactured goods exporters producing a less technologically complex set of products such as textiles, food products and some electronics assembly: Pakistan, Philippines and Thailand, and, to a lesser degree, Indonesia and Sri Lanka, produce for domestic markets and export a range of industrial goods, including assembled electronics.

(iv) Low-income industrializing countries, exporting only traditional manufactured goods and essentially not included in the economic effects of the information revolution except as minor consumers. Countries such as Bangladesh, Burma and Viet Nam are included in this category although there are wide variations among these economies.

(v) Agricultural and primary product extractive economies: Afghanistan, Bhutan, Cambodia, Lao PDR and Nepal are characterized by a high percentage of the labor force in subsistence activities with very little domestic manufacturing and almost no use of high technology even as consumer goods.

(vi) The island states, including the SPDMCs[1] and Maldives: these countries are characterized by small populations, subsistence agriculture and fishing, heavy reliance on plantation agriculture, tourist services, and special problems related to small country development. Although these are not industrialized countries, they are incorporated into the international economy through their tourist industry and dependence on trade. These externally-oriented sectors are, in some cases, highly

[1] PNG could, under several criteria, also be included in category (v).

developed and use information technology, exhibiting a pronounced duality between modern and traditional sectors.

21. The process of development involves continuous and often nonlinear changes in a country's economic and social organization. Typically, there is an increase in the share of a rapidly growing labor force employed in urban areas and in industry and services rather than in agriculture. The process of economic development also includes increasing the productivity of the workforce. Part of this increase occurs because shifts from subsistence agriculture to industry are accompanied by an increase of physical capital per worker. But an intrinsic part of raising productivity is also the improvement of the quality of human capital in the labor force. Formal education and training have become synonymous with this increased capacity of labor to produce goods and services. Education and training have therefore become an important part of developing economies' overall investment strategies for increasing economic growth. However, since formal education and training also represent the individual's economic and social success, the demand for it by young people and their families has a social impetus of its own. Formal education is, generally, the only way that a young person in a developing country can gain higher income, social status, and access to a secure job in the modern sector. This demand, thus, has political as well as economic dimensions. The degree of access to education for various social class groups reflects the emphasis that a society places on equity of access to income and higher status jobs.

B. DEVELOPMENT AND EDUCATION

1. A Multi-Dimensional Concept of Development

22. It has long been a convenient notion to identify development with economic growth alone. In addition, due to the disproportionate share of the modern sector in absorbing capital, economic growth is often operationalized in terms of industrial production and modern services. Such a notion, however, is insufficient for several reasons, among which are the following:

(i) "It leads many people into believing that rich countries are more advanced in all fields of civilization and culture, and that developing countries are inferior in all respects."[1] In fact, the very term "developing country" used simply for poor countries implies this misconception. It disregards the intrinsic values of cultural identity and cultural diversity and favors, as an axiom, the concept of one modern universal industrial-technological civilization.

[1] M. Lubis, 1977 (1979). (For the complete quotation of all footnoted references see Annex K.)

(ii) It is silent about the asymmetric character of interdependence between rich and poor countries, particularly, the unequal patterns of production and distribution.

(iii) It tends to ignore the question of an equitable participation in and distribution of benefits from the development process within a country. Thus, it does not tell much about the actual living conditions of the people, including the social and environmental costs of economic growth.

23. Economic development theories have tried to mitigate such misconception by introducing other variables and by redistributing the weight and function of variables of economic relevance within the growth model; concepts such as "Basic Needs", "Redistribution with Growth" and "Growth with Equity" have emerged. However, all these concepts have in common that the strategic variables used are basically economic in nature and that they reduce the complex scope of development to merely an economic problem. Such development theories, therefore, have been labelled "economistic" or "reductionist".[1]

24. It is beyond the scope of this Paper to review the discussion on development theories or to attempt to reconcile divergent positions. However, development assistance to the education sector, probably more than to any other sector, is very much dependent on the overall concept of development, since education has many interdisciplinary and intersectoral characteristics. Education systems do neither purely serve their own purposes nor primarily the enhancement of economic growth. Countries simply do not shape and develop their education systems for economic reasons only, but view education as the main instrument to preserve and promote their culture. This includes political, social, environmental and other facets which may or may not be in line with particular economic theories or concepts, and may or may not be in conflict with economic growth and modernization. Therefore, in order to understand the state of education development in a country and to design an appropriate assistance policy, it is necessary to be aware of this multifaceted character of development and of the role education plays in it.

25. Development, in its dynamic sense, is a complex cultural and civilizing process aimed at achieving qualitative standards of life perceived as better than the existing ones. This perception, of course, is significantly different in dif-

[1] K. Dopfer, 1979.

ferent societies[1] and has, in addition to economic aspects, several distinct, although interrelated dimensions, among which are the following:

(i) A historical dimension: Cultural heritage, colonial legacy, weal and woe of a common past determine a society's perceptions and aspirations and can make it opt for a style of life which may be difficult to understand by those who do not share the same historical experience.

(ii) A political-ideological dimension: Societies have chosen different concepts of how to organize themselves, not only involving different economic systens, but also different social values, different views about the importance of material or spiritual goods, and different metaphysical interpretations of human life.

(iii) A psychological dimension: People also differ significantly regarding their self-concept and the concept of their role in society. They have different attitudes towards authority and cooperation, different ambition and readiness for change and experiment, and different standards regarding the importance of "secondary" virtues such as punctuality and orderliness.

26. These dimensions, the enumeration of which is not by any means complete, constitute conditions for and aspects of development at the same time. The success and failure of development and development assistance will significantly depend on the way they are considered and, possibly, integrated in a balanced manner. Education in particular, as a society's main instrument to transmit and further develop the common heritage from generation to generation, cannot be planned or remodelled without special regard to a country's cultural context for which these dimensions are examples. This does not mean, however, that limited, highly specialized educational reform and upgrading projects are more or less doomed from the start, but they might be if they ignore many or major factors of this cultural context of a country. Nor does it mean that each and every particular manifestation of cultural identity should be respected as having a value of its own and seen as taboo for interference; otherwise there would be no progress at all.

2. The Role of Education in Development

27. Education has a dialectic character in that it tends to preserve and stabilize culture (conservative function) and, at the same time, it is an instru-

[1] To simplify matters, the term "society" here is used synonymously with "nation", suggesting a certain homogeneity of characteristics of all people of a nation. It is recognized, however, that there can be quite different societies within a nation and that it can become a major issue to determine development objectives within a nation.

ment to promote cultural change (progressive function). In other words, no cultural change is possible against or without education, nor will education alone trigger cultural change. For the development process and for development assistance, this has a double implication:

(i) Any development assistance, regardless of the sector (industrial development, agricultural development, infrastructural development, etc.), needs to be coupled with supportive education (or training) efforts to be successful in the long term.

(ii) Any assistance to the education sector, however specialized a project may be, needs to be designed keeping in view the entire cultural and economic context of a country, if one does not want to see goats grazing in modern laboratory facilities after some time.

28. For a development finance institution, however, it is a matter of effectiveness and efficiency to specialize in certain dimensions of development. It would neither be effective nor efficient, however, to do so without due regard to the complex multifaceted character of development. The Bank, on its part, recognizes and emphasizes its special role in economic development amidst international and bilateral assistance institutions, as well as NGOs and private agencies. However, as far as education development is concerned, because of the complex cultural and intersectoral function of education as outlined above, the determination of relevant foci for development assistance cannot, and should not, be done on purely economic grounds. It has to be done in the wider ambit of the respective countries' development outlook, taking into account the entire cultural context, including its historical, political and other relevant dimensions, if not as a matter of principle, then at least as a matter of effectiveness and efficiency.

29. In analyzing the present state of education development in the region and identifying the critical areas for future development assistance, it is appropriate that the Bank concentrate on aspects of particular relevance to economic development. This is what is usually called human resource development. It is expected that other aspects, less directly related to human resource development (such as the preservation of cultural heritage), will be dealt with by other appropriate agencies concerned with education development assistance. Nevertheless, a narrow perspective should be avoided, recognizing the complex noneconomic dimensions of development in general, and the role education plays in the development process in particular.

30. Despite the dialectic tension between its conservative and progressive functions, education, by its very nature, is essentially future-oriented in that it aims at leading young people of today to adulthood tomorrow. Education must be concerned with anticipating alternative future scenarios. It has to prepare young people for the task of both shaping the future and coping with

the future. The issue "future of education", therefore, is interrelated with the issue "education for the future".[1] Certainly, it depends on today's education what this future will look like. At the same time, however, education comes upon development trends which, due to their force and sheer magnitude, are very resistant to educational interference. Policymakers as well as educationists have to be aware of such trends to be able to design appropriate educational responses, be it to halt or redirect them or to enable future adult generations to cope with them.

3. Future Key Factors Affecting Development and Education

31. Population growth will remain the single most serious challenge to development and prosperity during the coming decades, posing special problems for education and human resource development.[2] In fact, the situation is expected to become even more critical as the absolute population increases, despite declining population growth rates, will be larger in many DMCs during the coming 25 years than they were during the past quarter century.[3] The large populous South Asian DMCs, Bangladesh, India and Pakistan for example, may double their population from around 960 million in the mid-1980s to 1.9 billion in probably little more than 30 years. Although the dependency burden is expected to lessen slightly due to the changing structure of the age pyramid, the task of merely providing sufficient school facilities for the school-age population appears to be formidable for a subregion which already lags significantly behind the rest of the region and the world in regard to the provision of education; let alone the task of creating job opportunities for the even more rapidly growing labor force. These daunting population trends will affect life and work styles, family concepts, social mobility and migration behavior[4] and might lead, as some observers predict, to unprecedented tension within and among developing countries, as well as between the developing and industrialized world. Any response to this immense challenge must be of complex international political nature within which education policies will play, among others, the following important roles:

(i) finding innovative and alternative approaches to mobilizing more resources for provision of mass education;

(ii) linking education more closely with the reality of labor and community life; and

(iii) introducing or consolidating population education as part of the regular school curriculum.

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[1] M. Makagiansar, 1987.
[2] World Commission on Environment and Development ("Brundtland Commission"), 1987. See particularly Chapter 4: Population and Human Resources.
[3] E. M. Pernia, 1987.
[4] J. N. Johnstone, 1984.

32. Closely linked to population growth, but a serious issue of its own, is the problem of marginalization, alienation and disorientation of large portions of the populace in many DMCs. The clash between traditional values and social structures, on the one hand, and the expectation to share the benefits and enticements of modern consumption-oriented life-styles on the other, are becoming more and more felt in the dualistic societies of Third World countries. Social refusal, crime, and illicit drug abuse are likely to grow to epidemic magnitude with rising numbers of semi-educated and underemployed youngsters. Also, annually about 15 million persons in the region are estimated to become disabled as victims of disease, malnutrition, accidents and war,[1] constituting a large group of disadvantaged and marginalized people in need of special care and attention. Paradoxically, improved health standards and rising life expectancy are rapidly leading to an increase of the number of adults beyond the productive age whose expectations for a meaningful and rewarding life will need to be better integrated into the societies of the future. So far, education does not pay much attention to these groups of people. Neither does education perform a significant direct service for them, nor are their lot and role adequately addressed in the education of those belonging to the more favored and successful segments of the population.

33. The improvement of productivity and living standards in developing countries is inseparably linked to and dependent on the rapid adaptation of scientific and technological methods of production. However, many DMCs face the challenge to hurry through this adaptation process in much too short a time, some even within one generation or two, whereas the industrialized world, without population pressure and using the dependent "colonized" world as an additional resource base, had more than 200 years to gradually build up knowledge and attitudes on how to live with complex production methods and automated systems. This rapid change process poses a tremendous problem to all developing countries. During these times, when information revolution and computer technology have accelerated scientific and technological development at an exponential rate, the risk that the people of the developing world will experience a social rift, with huge portions of the population being left far behind and outside the modern sector, has dramatically increased. This might pave the way for all sorts of demagogy and exploding fundamentalism of any ideological type. In addition, to fully benefit from scientific and technological advances by making them available for the special needs of developing countries, will only be possible if they can emancipate themselves from their traditional role as science and technology consumers to independent science and technology producers, that is to create knowledge themselves. For the education sector, this means a fundamental reorientation towards creativity and autonomy in learning rather than replica-

[1] UNESCO, 1987.

tion and consumption of knowledge produced elsewhere. Which of the developing countries have already reached this educational take-off point and whether the industrialized countries are prepared to accept the sharpening competition resulting from this take-off can be disputed.

34. Population growth, economic growth, and the utilization of more technology-intensive production methods are threatening to result in a serious degradation of the physical environment and an irrecoverable destruction of the natural resource base, unless development policies explicitly counteracting this trend are adopted.[1] Although this is a worldwide phenomenon, developing countries are more seriously affected because of their dependence on primary resource exploitation and because of less-developed and less strictly enforced systems of environmental protection. By the year 2000, for example, unless specific measures are taken now, about 80 million hectares of forests will be lost in the region of the Bank's DMCs resulting in the destruction of watersheds, soil erosion, flooding, and droughts; air and water pollution will increase five to tenfold due to intensification of industrial and mining activities and a 300 per cent increase in motor vehicles; and health problems will increase because of the use and misuse of pesticides, and because of salinization, alkalinization and waterlogging of irrigated land.[2] Although the nature and magnitude of these risks are increasingly being recognized in the DMCs, policymakers, in addition to adopting adequate direct responses in terms of legislation and appropriate development planning, need to be more aware of the educational implications of the issue. Without systematic environmental education integrated into health, social, scientific and technical education, and imparting the necessary knowledge and attitudinal changes to everybody as part of the regular curriculum, political and legal measures at the macro level are bound to be little successful in preventing an environmental disaster which would likely affect developing countries earlier and more dramatically than the economically advanced world.

[1] World Commission on Environment and Development ("Brundtland Commission"), 1987.
[2] ADB, Annual Report 1987.

CHAPTER II

THE STATE OF EDUCATION DEVELOPMENT IN THE REGION

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A. REVIEW OF PRESENT STATUS AND DEVELOPMENT TRENDS

1. Educational Systems and Quantitative Development, Expenditures and Financing

(a) Educational Systems and Quantitative Development

35. The structure of the education systems in the region[1] is basically inherited or adopted from former western colonial powers. Common characteristics are: a three-tiered system (primary, secondary and tertiary education) with age-specific grading and the tiers linked to each other through a formal selection mechanism, often in the form of an examination; a pronounced streaming or tracking[2] at the secondary level; and, with the exception of socialist DMCs, a private school system in addition to the state system, normally significantly more extensive at the higher levels than at the primary level. The length of the primary school cycle varies from five years (in most South Asian DMCs) to eight years (in Afghanistan), with a six-year cycle in the majority of DMCs. The formal entrance age is six years in most DMCs and five or seven years in some; however, enrollment of overaged children is widespread. The total duration of the first and second levels of general education varies from 10 to 14 years, 12 years being the most common. With the exception of some countries (Afghanistan, Hong Kong, the Republic of Korea, Malaysia, Philippines, Singapore and Taipei,China), primary school teacher training is conducted at the secondary school level, in contrast to developed countries where, normally, some sort of tertiary-level courses is required. A feature of most state-run tertiary education systems in the DMCs is the provision of higher level technical and professional training in special institutes, including agricultural and technical institutes. Private universities and colleges, on the other hand, concentrate on liberal arts subjects.

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[1] For details see Annex D (National Systems of Formal Education in the DMCs).

[2] Streaming is a form of ability grouping which segregates pupils in all or most subjects from each other, however within the institutional frame of the same school; a certain permeability in terms of shifting from one stream to another is possible. Tracking refers to a grouping practice where the pupils, based on ability or interest, enroll in entirely different types of schools of the same level (for example general-academic schools and technical schools); to shift from one track to another is normally not possible.

36. Enrollment growth in the region has been impressive in absolute numbers. Since around 1960, the total number of young people enrolled in formal educational institutions at all three levels has increased by about 245 million to around 447 million in the early 1980s as shown in Table 2.

Table 2: **Increase of School Enrollments and Population of Corresponding Age Groups (Modal Age) in Developing Asia and Pacific[a] from 1960 to 1982**

	Enrollments by Level (in millions)				Population of Modal Age[b] by Level (in millions)			
	1st	2nd	3rd	Total	1st	2nd	3rd	Total
1960	168.7	31.5	1.9	202.1	202.1	176.4	137.8	516.4
1982	317.6	116.7	12.5	446.8	322.0	327.5	256.0	905.5
Absolute Increase	148.9	85.2	10.6	244.7	119.9	151.1	118.2	389.1
Index 1982 (1960 = 100)	188	370	658	221	159	186	186	175

[a] Includes 27 developing countries from Asia and the Pacific according to UNESCO membership and UNESCO's geographic grouping, which is not identical with the Bank's DMCs. (For example: The sample includes Democratic People's Republic of Korea, Mongolia and Turkey but excludes Taipei,China).

[b] The term "modal age" refers to the age-range which should be enrolled at a certain level of a country's education system; for the 1st level, for example, the modal age in the majority of the DMCs is 6 to 11 years. (Since the modal ages differ from country to country, intercountry comparisons as in this table are based on adjusted modal age categories: 6-11 years 1st level; 12-17 years 2nd level; and 13-23 years 3rd level.)

Source: UNESCO, 1985(a).

From the table it can be seen, in particular, that the number of children of primary school age who do not enroll in schools has dropped dramatically, reflecting the developing countries' remarkable effort in trying to provide universal primary education in spite of high population growth. This, of course, has increased the pressure on secondary and tertiary level schooling; in regard to both these levels, growth of absolute enrollment was greatly outnumbered by the growth of the corresponding population age group. It is also important to note that in terms of enrollment growth, the Asia and Pacific region does not compare favorably with other developing regions of the world, as shown in Table 3.

Table 3: **Enrollment Growth and Population Growth in Different Developing Regions of the World**

	Growth Index 1982[a]							
	Enrollments by Level				Population by Level			
	1st	2nd	3rd	Total	1st	2nd	3rd	Total
Asia and Pacific	188	370	658	221	159	186	186	175
Latin America and Caribbean	243	647	1,056	297	170	195	200	184
Africa	358	907	874	408	194	192	170	187

[a] 1960 = 100

Source: UNESCO, 1985(a).

37. An indicator which links actual enrollment to the size of the school-age population group and, thus, assesses whether the enrollment growth has kept pace with that of population, is the enrollment ratio;[1] however, due to the characteristics of most school statistics one usually has to be content with the less accurate gross enrollment ratio.[2] In the developing Asia and Pacific region the gross enrollment ratios increased from around 80 per cent (1960) to nearly 100 per cent (mid-1980s) at the primary level, from around 20 per cent to nearly 40 per cent at the secondary level, and from between 1 and 2 per cent to 6 per cent at the tertiary level. These average figures show that enrollment growth exceeded population growth and indicate the considerable efforts made to expand education.

38. More important, however, particularly for a development assistance agency, is to look at the unfinished business. Unfortunately, statistics on enrollment growth do not say much about the real numbers of school-age young people who actually remain out of school, since they include also over-aged children (for example, repeaters) and reflect all pupils formally enrolled at a certain point of time regardless of their actual attendance over a significant period, ideally throughout all grades of a particular level. In fact, despite the progress made, far too many young people are and will continue to be ex-

[1] For detailed actual enrollment ratios by country see Annex E (Key Indicators of Education in DMCs).

[2] The gross enrollment ratio expresses the total enrollment of all ages divided by the total population of the level-specific modal age (e.g. 6 to 11 years). For countries with universal or almost universal primary education, the gross enrollment ratio may significantly exceed 100 per cent since pupils above the age limits of the modal age (e.g. 12 to 13 years old) are also included; and vice versa, countries with a gross enrollment ratio of 100 per cent may not have reached universal enrollment. The net enrollment ratio expresses the actual enrollment of pupils of the modal age divided by the total population of the modal age.

cluded from formal education. It is estimated that, in the early 1980s, 29 per cent of the population aged 6-11 years in developing Asia were outside school, compared to 51 per cent around 1960. In the age group 6-23 years, an estimated 59 per cent did not attend school in the early 1980s, down from around 74 per cent in 1960. Due to population growth, however, the absolute number increased from around 249 million to 356 million (excluding the PRC).[1] Although one has to be careful in interpreting the rough estimates presented in Table 4 due to a variety of sources of error, the important message derived from them is that the absolute number of young people out of school increased over time and will likely continue to do so well beyond the year 2000. The same is true for the absolute number of adult illiterates, literacy being linked directly to primary school attendance as the single most important factor.

Table 4: **Out-of-School Youth in Millions in the Developing Countries of Asia and the Pacific[a] (1960-1982)**

Age Group	1960	1970	1980	1982
Age Group 6-11				
Population	133	182	221	227
Number out of school	68	74	72	67
% out of school	51.0	40.5	32.8	29.4
Age Group 12-17				
Population	109	149	195	203
Number out of school	88	107	129	131
% out of school	81.1	71.9	65.8	64.7
Age Group 18-23				
Population	96	117	165	175
Number out of school	93	110	151	158
% out of school	96.2	93.5	91.3	90.4
Total (Age Group 6-23)				
Population	338	448	581	605
Number out of school	249	291	352	356
% out of school	73.7	65.0	60.6	58.8

[a] As defined by UNESCO (see Table 2, footnote a), but excluding the People's Republic of China and the Democratic People's Republic of Korea (25 countries).

Source: R.R. Singh, 1986.

[1] This trend analysis does not imply, however, that all youngsters of the respective age groups ideally should attend formal educational institutions. While this could reasonably be expected for the primary level and, possibly, for the junior secondary level, it does not apply to the higher levels of the education systems, when many youngsters are expected to have entered the workforce.

(b) Educational Expenditures and Financing of Education

39. In view of the fact that developed countries (OECD countries) on average spend about ten times more on education than the DMCs in terms of per capita public expenditure, the DMCs' task to mobilize resources may seem to be daunting, in spite of price and cost differences (e.g. salaries) which explain part of the variation in spending. Nevertheless, during the past two decades, on an average, more public resources for education, in terms of

Table 5: **Comparative Estimates of Public Expenditure on Education**

World/Region	Year	Total as % of GNP	Per Capita Education Expenditures (US$)
World	1965	4.9	38
	1970	5.2	45
	1975	5.6	84
	1980	5.6	142
	1984	5.7	141
Developed Countries	1965	5.1	87
	1970	5.7	142
	1975	6.1	270
	1980	6.1	466
	1984	6.1	487
Developing Countries	1965	3.0	5
	1970	3.0	6
	1975	3.6	14
	1980	3.8	29
	1984	4.0	27
Asia (excluding Arab states)	1965	3.5	7
	1970	3.0	7
	1975	4.2	18
	1980	4.6	37
	1984	4.5	40
Oceania	1965	3.7	63
	1970	4.4	103
	1975	6.2	332
	1980	5.9	460
	1984	5.9	514

Source: UNESCO, *Statistical Yearbook* 1978, 1979 and 1986.

percentage of GNP and per capita outlays, have been raised by the Asian developing countries[1] than by the developing regions of the world as a whole. It can also be seen from Table 5 that per capita spending was not only higher on average than in the developing world as a whole, but has also increased faster.

40. However, these prima facie encouraging aggregate figures hide important development trends over time and intraregional differences, the most obvious being:[2]

(i) fiscal efforts peaked at around 15.0 per cent of total public expenditure spent for education as early as 1970 and have since shown a declining trend, while national efforts have risen slowly from a 2.8 per cent share of GNP prior to 1970 to an average of 3.8 per cent, as per latest data available, thus indicating an increasing competition for public sector resources against a generally expanding trend in spending for education; and

(ii) the NICs, the ASEAN DMCs, and the SPDMCs form a group of countries which, both in terms of fiscal and national effort, shows significantly better averages than the DMCs of South Asia and the non-ASEAN DMCs of Southeast Asia.

41. The heaviest pressure on the DMCs' public budgets in education, as in many other sectors, stems from population growth relative to economic performance. Much of the increased spending for education has been absorbed by recurrent expenditures due to rapid quantitative expansion. In the region as a whole, recurrent costs account on average for more than 80 per cent of total education expenditure, again with an increasing trend in DMCs with high population growth and, thus, a continuing need for expansion. Therefore, little financial scope was left for expanding the system's coverage or for investments aimed at improving the quality of education, resulting in an increase in the absolute numbers of children without any formal education and sometimes in a pronounced qualitative decline.

42. Between the two basic options to overcome constraints in financing education, that are the mobilization of additional funds or the reduction of unit costs, emphasis has been put on the latter in many DMCs. Innovative approaches, ranging from the provision of low-cost education facilities to the ap-

[1] For details on public education expenditure in the region see Annex E.3 (Key Indicators of Education in DMCs: Public Expenditures on Education in the Early or Mid-1980s).

[2] For details see Annex F (Evolution of Fiscal Effort for Education in DMCs from 1965 to 1984) and Annex G (Evolution of National Effort for Education in DMCs from 1985 to 1984).

plication of distance education techniques,[1] can be found at all levels of education and in several DMCs. More attention has been paid particularly to making use of nonformal education, principally by networking training specialists from different fields with available facilities and resources. The Bangladesh Academy of Rural Development, for example, has successfully used this networking approach with a focus on a closer relationship between rural primary schools and rural development. In India, an experimental project uses multigrade classes with individually adjusted progress speed at the primary level. Other DMCs, such as Indonesia and the Philippines, have experimented with neighborhood-based network approaches in which teachers, tutors, parents and peers were involved in various education activities using both existing school facilities and specially designed self-instructional materials. The results have been generally encouraging. Good experiences with distance education approaches are reported from PRC, Republic of Korea, Malaysia and other regional developing countries. However, most of these innovations have been viewed as complementary approaches on an experimental basis in order to alleviate acute constraints; their potentials as low-cost approaches and alternative modes of delivery on a larger scale have not yet been tapped.

2. Labor Market Trends and Education Development Policies[2]

(a) The People's Republic of China and India

43. The PRC and India together account for almost three quarters of the DMCs' total population. These enormous populations pose the greatest development challenge for the region on the threshold of the next century. The social and economic structures and development strategies of the two countries, however, are considerably different. China has undergone a socialist revolution and, until its recent economic reforms, all productive activities were controlled by the State. Highest emphasis has been put on labor as the source of economic growth, with investment in heavy industry as a primary basis for development. India on the other hand, even with a significant state investment in heavy industry, is a market economy. Much less emphasis has been put on

[1] See the overview in UNESCO, 1985(b).

[2] The classification of DMCs applied here was developed in para. 20. The categories used are: Large, low-income, autarkic nations (the PRC and India); high technology exporters (Hong Kong, the Republic of Korea, Malaysia, Singapore and Taipei,China); middle-income industrializing economies (Indonesia, Pakistan, Philippines, Sri Lanka and Thailand); low-income industrializing economies (Bangladesh, Burma and Viet Nam); subsistence agricultural economies (Afghanistan, Bhutan, Cambodia, Lao PDR and Nepal); and the island states (the South Pacific DMCs and the Maldives). Unless indicated otherwise, data used in this section stem from Annexes A, B, C, D and E.

broad-based human resource development through widespread primary and secondary education. These differences are evidenced by data on sectoral employment, production structure, and the education of the labor force, as well as the percentage of gross domestic product from agriculture, industry and services.[1] Although from 1979 to 1984 Chinese agricultural output grew at double the 2 per cent rate of 1957 to 1978, industrial output grew even more rapidly, contributing to an increased portion of GDP from industry by 1984 (44 per cent), whereas India's percentage remained at 27.[2] Both the PRC and India are stressing the production of high technology manufactured goods, telecommunications, and high technology business services in their development plans, sectors which require a higher fraction of university-trained labor than does traditional manufacturing.

44. The PRC and India have faced an enormous task of schooling large and diverse populations which at the time of China's revolution (1949) and India's independence (1947) were largely illiterate. In the forty years since that time, the PRC has probably reached universal primary education (gross enrollment ration 118 per cent) and about 65 per cent of its adult population are illiterate. India has been less successful, but has also greatly increased primary schooling for its younger population (gross enrollment ration 90 per cent). By 1980, however, adult literacy was only 42 per cent, with illiteracy among adult women around 70 per cent. Repetition rates and dropout rates at the primary level are reported to be much higher than in the PRC. In the early 1980s, 72 per cent of the Indian labor force of 25 years or older had no schooling compared to 44 per cent of the Chinese labor force. The percentage of the Chinese labor force with primary education was more than three times that of Indians, and almost twice as high a percentage of Chinese has attended secondary school. At the university level, however, the pecentage of India's labor force surpasses the PRC's considerably. In a real sense, however, there is a clear oversupply of university-educated labor in India.[3] Also the population of the Indian labor force with tertiary-level scientific and engineering training is much lower than that of the PRC. Since wages are fixed by the State in the PRC and incomes are more equal than in India, it is likely that rates of return to education are lower in the PRC, although the pay-off to primary schooling may have risen because of recent agricultural reforms.

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[1] Comparative data for 1978/79 are:

	Per cent of Labor Force			Per cent of GDP		
	Agriculture	Industry	Services	Agriculture	Industry	Services
PRC	71	17	12	34	40	26
India	74	11	15	38	27	35

Source: World Bank, 1983.

[2] World Bank, 1985.

[3] By early 1980, the average university graduates waiting period for employment was more than three years. For details see: M. Carnoy, 1987.

45. These patterns reveal an interesting contrast in the recent educational policies of the two Asian giants and the prospects for the future. The PRC has historically emphasized primary and lower secondary education, whereas India has expanded university education at relatively low cost but a much faster rate. Thus, the PRC presently provides more equal access for a very high percentage of the school age population but also has developed a very restricted and relatively expensive higher education system. In the PRC's present modernization period, educational expansion is closely tied to the economic needs of a rapidly industrializing society, with special emphasis on university growth and secondary vocational training. India's investment in education has grown much more regularly than the PRC's. The primary gross enrollment ratio of India remains considerably lower than the PRC's, but its secondary enrollment ratio has come closer to that of the PRC since 1980, as PRC's enrollment increase at this level slowed down. However, it is at the university level that the differences are greatest: the PRC has only about one-fifth the number of university students as India. The most difficult decisions, however, both countries must make in regard to their secondary education system. India, in addition to enormous efforts needed to make up for the significant backlog in primary education, must continue to expand secondary education to meet social demand and the needs of an increasingly industrialized economy. The PRC must also expand secondary education and has decided to do so by making the junior cycle compulsory and by increasingly vocationalizing the senior secondary cycle through the provision of specialized training for industrial and technical jobs. The Chinese strategy is much more expensive. Almost 40 per cent of the increase in educational spending between 1985 and 2000 will go to secondary technical-vocational education, consistent with the country's philosophy of linking education directly to work.

(b) High-Technology Exporters

46. The five DMCs of this group are not only exporters of industrial goods, but also compete with much more developed countries in high technology exports and have applied high technology extensively to their production of traditionally-manufactured goods and to services. A relatively high fraction of the labor force is employed in industry and services and has a relatively high level of education. These characteristics are reflected in the rates of return to schooling.[1] Unlike in India and the PRC, and a number of the middle-income and low-income, smaller DMCs, the returns to investment in lower levels of schooling in this group of more industrialized economies with a better-schooled labor force is generally estimated to be lower than that to investment in higher levels.

[1] For some DMCs, rates of return are given in Annex H (Rates of Return to Investment in Education by Level of Education in Selected DMCs in Various Years.)

47. Due to their comparatively good starting position, all the five countries in this group have had relatively slow expansion of primary school enrollment, rather rapid secondary school expansion, and very rapid growth of university enrollment. This implies increasing levels of unit costs. In the 1980-1985 period, the DMCs of this grouping have increased their spending on education as a percentage of GNP and, given the comparatively high GNP growth rates in those years, very large increases in educational spending were recorded. The large investment in expanding high quality secondary and university education appears appropriate and is consistent with their economic strategy of developing and producing sophisticated, world market-competitive goods and services. There is wide variance, however, among the five countries in the distribution of secondary school education between general academic and technical-vocational education.[1] Taipei,China and the Republic of Korea both have much higher fractions of their secondary education enrollment in technical-vocational secondary schools than Hong Kong, Malaysia and Singapore.

48. The increased emphasis on higher levels of schooling in these economies appears to be consistent with the rapid development of more technologically sophisticated industry and services and greater reliance on local engineering and management. If these economies wish to develop the techno-scientific base for high technology innovation and production, continued and even more extensive investment in higher quality upper secondary and tertiary education will be necessary. However, there are also sharp inequalities in access to education in these countries; and an educational investment policy that would focus exclusively on preparing a highly-skilled labor force will probably exacerbate these inequalities.

(c) Middle-Income Industrializing Economies

49. In the DMCs of this group 50 per cent or more of their labor force is still found in agriculture. Except for Indonesia, with its large oil exports, and Sri Lanka, with its important exports of tea, these countries' exports are largely manufactured products, especially food products and textiles. The role of technology, both in the production of sophisticated technology goods and their application in more traditional production, is limited, although some electronics assembly for export takes place. These countries are anxious to incorporate themselves into the newly emerging international division of labor based on high technology production and application. Pakistan (with a population of almost 100 million people) and Indonesia (with a population of more than 170 million people) have potentially huge domestic markets and the possibility to develop their own automated, heavy industry producing for domestic consumption.

[1] See UNESCO, 1980.

50. Although these DMCs have rather similar employment structures, the education of the labor forces varies widely. Pakistan has the least educated labor force, whereas the Philippines has one of the highest in the region, with only about 12 per cent without any schooling and around 15 per cent with higher education. The five countries also had extremely varied educational expansion patterns in the last twenty years and generally declining national efforts for education in the 1970s and early 1980s. Thailand and, to a lesser extent, Pakistan are the two exceptions to this declining effort. Pakistan seems to face the gravest difficulties in solving the dilemma of how to raise the low level of education of its labor force. Not only does it have the lowest levels of educational enrollment in this group, it also has the highest growth in its school age population. With the exception of Pakistan, higher education has expanded much more rapidly than the other levels in the countries of this grouping. The Philippines, more than any other country in this group, relies heavily on private education to school its population, especially at the secondary and tertiary levels. Private schooling provides some of the most elite and some of the lowest quality schooling at both levels.

51. A development policy towards more industrialization, including the production of high technology goods for export and the use of high technology to modernize traditional industries would require more investment in secondary and higher education for Indonesia, Pakistan, Sri Lanka and Thailand and greater emphasis on improving the quality of technical secondary and higher education for the Philippines. In Indonesia and especially Pakistan, women, who comprise an increased fraction of the labor force in the production of high technology goods and services, must have greater access to schooling in order to build up a pool of semi-skilled female labor if those countries hope to attract foreign investment. At the same time, also in Indonesia and particularly Pakistan, where primary education especially in rural areas is still of poor quality and secondary enrollment rates are relatively low, continued efforts are needed to strengthen the bases of the education pyramids. This, of course, means an extraordinarily larger burden for the education budget, and both the mobilization of additional funds and measures of rationalization through increased efficiency are indicated.

(d) Low-Income Industrializing Economies

52. Bangladesh, Burma and Viet Nam differ from the middle-income industrializing economies in several ways: first, the share of their GNP in manufacturing is much lower; second, they are not integrated into the world economy in the same way or to the same degree, as they do not manufacture and hardly use information technology, while two of the countries, Viet Nam and Burma, tend to pursue autarkic development policies; third, they are characterized by much lower income per capita; and fourth, they have a higher fraction of their labor force and output in agricultural production.

53. Viet Nam has reached relatively high levels of gross enrollment at the primary and secondary levels. Its educational strategy appears to be much like that of the PRC, namely, to continue to focus on the expansion of secondary education and to keep the number of university students relatively small for its level of development. Burma also has a relatively high literate adult population and a reasonably low production growth. The gross enrollment ratio has gradually increased in secondary schools, but remains low. Of the three countries, Bangladesh has the labor force with the lowest level of education. It also has the lowest adult literacy rate and the lowest gross enrollment ratios at the primary and secondary levels. At the same time, it has the highest population growth rates and high attrition at the primary level. Bangladesh increased its spending per capita on education in the 1970s, and spending on education in the 1980s has increased more rapidly than GNP growth. But it still spends less than 2 per cent of GNP on education. Although no data are available on rates of return to schooling for these countries, the returns to investment in primary education are likely to be higher than for secondary and tertiary education, particularly in Bangladesh and Burma. The returns to investment in education in Viet Nam are probably rather low because of the government-regulated, highly equal wage distribution, as in the PRC, and the relatively high fraction of the population with primary and secondary schooling.

54. The position of these countries in the world economy and their relatively unindustrialized societies generally suggest the need to place major emphasis on strengthening primary education, both in terms of increasing access, particularly in Bangladesh, and improving quality, particularly in Burma. Viet Nam's economy and employment structure is similar, but its labor force is already relatively highly schooled and, therefore, increasing the emphasis on high-quality secondary and tertiary education with improved scientific, technological, and management training appears to be an appropriate educational development policy.

(e) Subsistence Agricultural Economies

55. Afghanistan, Bhutan, Cambodia, Lao PDR and Nepal are low-income subsistence agricultural economies. These countries are much less urbanized than all the other DMCs, and, consequently, very high percentages of their labor forces are engaged in agriculture, from about 70 per cent in Afghanistan to more than 90 per cent in Bhutan and Nepal.

56. The educational situation of the five countries in this category is characterized by relatively low adult literacy with an extremely low literacy of the female population. They also have relatively low enrollments in primary school, but especially in secondary school, and — except in Nepal — a miniscule enrollment at the higher education levels. In addition, their school-age populations are growing relatively fast.

57. All the countries in this group have to make a serious effort just to provide education to the increasing population of school-age children at the primary level. Dropout rates are reported to be very high, particularly in Afghanistan, Bhutan and Nepal, and keeping children in schools seems, thus, to be crucial to developing a literate population. It is also in these countries, to a greater or lesser extent, that women in particular are denied access to education. There is apparently also a great shortage of qualified teaching personnel, particularly in Afghanistan, Bhutan and Nepal. This implies the need to develop new strategies and innovative curricula for reaching rural children and adults with adequate primary schooling.

(f) The Island States

58. The island societies and Papua New Guinea represent a wide variety of demographic, economic and physical conditions. Most of them have a relatively high GNP per capita, although, since almost all manufactured goods and many foodstuffs are imported, prices for all but subsistence goods are also high. Generally, the island states are subsistence agriculture and pisciculture economies with plantation crop export sectors, and in some cases, important tourist industries. The latter two sectors raise the GNP per capita substantially. In PNG for example, although the great majority of the people on remote islands or in inland villages live at subsistence levels, yet, because of a significant export sector, had a 1985 per capita GNP of about $700.

59. Most of these DMCs are highly literate societies with near to universal primary education; and some, particularly Fiji, Tonga and Western Samoa, have a very high percentage of youth enrolled in secondary school. The educational development profile of PNG, however, with the largest population among the island states, is rather similar to the countries in the subsistence agricultural group. On the other hand, PNG has a relatively high income per capita and devotes a high percentage of GNP (almost 5 per cent) to education. This means that it has a great deal more resources to spend per capita on education than countries such as Afghanistan or Nepal; and in that sense, its educational situation is more akin to that of the Pacific island states.

60. From the limited data available on the relation of education to labor markets in the island economies, the further development of education at the secondary level should be, for most of them, their first priority. This includes improved academic programs and specialized training for those sectors that demand higher-trained labor, including for the educational system itself. Such programs would not be cost effective, however, if new employment possibilites do not accompany increased schooling. The islands' most highly educated labor force could easily be lost to continental economies, as has already happened. The educational development strategies of the small island economies with already relatively well educated populations will differ from the strategy

pursued by PNG. Here, here as in the case of subsistence agricultural economies, the focus should rather be on developing literacy and rural primary education.

B. KEY ISSUES AND TASKS AHEAD

1. Education for All

61. Adult literacy is often viewed as the most important indicator of a developing country's state of educational development.[1] Although the average regional adult literacy rate has improved from about 54 per cent in 1970 to about 64 per cent in 1985, this improvement was not enough to make up for the population growth. On the contrary, the absolute number of men and women in Asia and the Pacific, aged 15 years and above, who are unable to read and write, has increased from about 530 million to about 650 million during the same period, accounting for three quarters of the total illiterate people in the world. These data averages, however, conceal the subregional profile. With about 40 per cent adult literacy, the South Asian subregion[2] lags markedly behind the rest of the region, where in some cases, literacy levels are higher than 90 per cent. The cases of Afghanistan, Bangladesh, Bhutan, Nepal and Pakistan, which are all registering adult literacy levels of below 30 per cent, stand for a clear pattern reflecting an interaction of educational, socio-economic and demographic factors. Low adult literacy correlates closely with high population growth, low primary school enrollment, and low per capita income.

62. Also in South Asia, primary school enrollment is the lowest in the world; during the early 80s, it has even slipped below the level of sub-Saharan Africa. The paradox is, on the other hand, that South Asian DMCs had, with almost 12 per cent, the highest primary school enrollment increase in the region during the last five years in absolute terms, indicating clearly a Sisyphus effect in the race with the subregion's population growth, which will continue to place increasing pressure on formal primary education in the foreseeable future. In contrast, primary school gross enrollment ratios have reached or exceeded 100 per cent in Northeast and Southeast Asia, as well as in most SPDMCs, and due to declining population growth rates in some countries in these subregions a re-allocation of resources within the education sector has become feasible.

63. It is significant that some DMCs, particularly the NICs, have included secondary education in the concept of compulsory basic education, aiming at

[1] For Asian case studies on adult literacy see UNESCO, 1982(a).
[2] Regarding most data averages for South Asia, Sri Lanka must be understood as an exception.

universal access and equal opportunities for success. However, this goal still remains distant for the great majority of the DMCs; only the Republic of Korea, Taipei,China and Tonga have reached secondary level gross enrollment ratios above 90 per cent. Significant disparities in the enrollment ratios between the sexes exist in most DMCs (the notable exceptions being Fiji, Malaysia, Philippines, Singapore and Sri Lanka), and they are more pronounced in countries which have gross enrollment ratios below 50 per cent. The South Asian DMCs, except Sri Lanka, represent a group of DMCs where less than one-third of the relevant age group is enrolled in secondary education (in Afghanistan and Bhutan less than 10 per cent). It is remarkable, however, to note this subregion's far above average enrollment growth in the 1980s reflecting, as has been shown in the case of primary education, the efforts made to catch up with the rapid population growth.

64. The pronounced intraregional heterogeneity in regard to achieving basic education for all is aggravated by unequal access to and success in schooling.

(i) Educational failure correlates highly with low socioeconomic status in all DMCs; this phenomenon is more pronounced in countries where education development as a whole is less advanced.

(ii) Urban versus rural disparities in regard to all criteria applied in assessing educational systems are typical for most DMCs, as well as regional imbalances within many DMCs; again, this is particularly true for DMCs with a relatively low level of education development.

(iii) Also, the extent of inequity between males and females depends on the average status of development of an educational system, more so, however, on prevailing cultural and religious role patterns. Unequal chances in schooling for girls relative to boys are typical of DMCs with comparatively poor performance in achieving universal primary education, and continue to be a problem at the post-secondary level in almost all DMCs.

65. In spite of the remarkable progress made in the region, the provision of education for all will remain the dominant task for most of the region until the year 2000 and beyond. For countries which have relatively low adult literacy rates and a significant number of primary school-age youngsters who do not complete primary school or go on to secondary school, increased emphasis on primary education and adult literacy training will be needed. Two principal arguments support this view:

(i) the measured economic benefits relative to costs are greater for investment in literacy and primary education than for higher, more expensive levels of schooling;[1] and

(ii) since these are the levels of education where the principal clientele tends to be rural or low-income urban, increasing the public resources available to these levels contributes to social and economic equity.

In addition to expansion, reducing attrition in primary schools by improving efficiency should be a primary policy concern in most DMCs. Primary education in developing countries can be made more efficient through the addition of high return resources (such as textbooks and educational radio) or the use of peer teaching. But this increase in efficiency will not provide even a small fraction of the resources required to reach the mass of children of primary school age in countries such as Afghanistan, Bangladesh, India, Nepal and Pakistan, or even the much small population of Papua New Guinea. Dropout rates are high in these countries because schools are not provided with the kinds of inputs that enable children to learn the required curriculum; but dropout rates are also high because teachers are made to teach a curriculum that is not designed to reach rural children, and because the teaching methods are inappropriate for the conditions of rural education. Drastic measures to provide rapidly increasing access to effective mass primary education are needed, using new curricula, new methods of teaching, and new methods of training teachers, supplemented by nutrition programs as part of the schooling process. Their purpose would be to teach and retrain all youth (including girls and rural children) and most adults by mobilizing community resources as well as making more effective use of public funds. In one way or another, this would require a political commitment on the part of communities and the central governments to give primary education the highest priority among education investments.

66. The core of many adult literacy campaigns in the region have been nonformal education (NFE) programs.[2] Generally, however, they have been underfunded, understaffed, undermonitored, and therefore often unsuccessful. In some cases they were used as a substitute for formal primary schooling even for older children who have not had access to such schooling. Although, in principle, NFE should be a low-cost alternative to formal schooling, there may be an underlying reason why even efficiently-run programs would not be particularly attractive to their potential clientele. NFE has been often viewed by its potential clients as a second-class version of formal schooling. Only when NFE is directly and clearly related to employment opportunities (such as in vocational training or skill development programs) or is politically motivated

[1] See, for instance, the research review in G. Psacharopoulos, 1984(a); and in G. Psacharopoulos and M. Woodhall, 1985.

[2] For an overview see UNESCO, 1978 and 1982(a).

does it seem to fully achieve its goals. Even then, it requires effective and dedicated organizers and staff to be successful.

67. The ongoing transition of labor markets towards industrialization and the increased use of technology-based modes of production are expected to require a workforce with a relatively advanced educational background. This does not mean traditional static skills, but rather broad and flexible qualifications and the flexibility for repeated changes of the job profile during the span of a working life. This suggests that the majority of the young people of the region would need at least nine years of general education of good quality, with special emphasis on basic sciences and technology, including a broad prevocational orientation. The great disparity within the region, however, both in terms of economic development and status of education, makes it impossible to adopt a common policy to approach this task. While the expansion of primary and secondary education will continue to be the priority concern of some DMCs, particularly in South Asia, others will focus their attention on reforming their educational systems and curricula to make them more suitable to meet the challenges of the rapidly changing conditions in the future. Moreover, for most DMCs, the notion of education for all will have to include continued concern for providing more equity as an important condition for harmonious development.

2. Quality and Internal Efficiency

68. Urgent common educational problems presently perceived and articulated in developing countries pertain to the quality of education.[1] Behind this deceptively simple term hides a multitude of interrelated aspects and dimensions of the teaching-learning process which are the subject of much scholarly dispute. For the purpose of this Paper, two main features are distinguished, one pertaining to all factors which condition, enable, initiate and facilitate learning (input-factors); the other to results of the learning process in terms of behavioral changes actually achieved (output-factors). How the input-factors are being organized and utilized in order to reach a certain output, or which output one can reach with a certain organization and utilization of input-factors, are the questions which determine the concept of internal efficiency of an education system.

69. The most important indicator for low internal efficiency is wastage, a concept that is usually operationalized through repetition and dropout rates.[2] In some DMCs, wastage at the primary school level is higher than 60 per cent and frustrates much, if not most of the educational efforts. To give an exam-

[1] See, for instance, B. Fuller and S. P. Heyneman, 1986; and S. P. Heyneman and D. S. White, 1986.

[2] For an analysis of the primary school dropout problem in Asia see UNESCO, 1984.

ple of the magnitude of the problem: during Indonesia's 1980/81-1982/83 school building program, some 14,000 new primary schools were established; this effort, however, was negated in little more than one year, because pupils repeating classes in 1982/83 were equivalent to a total enrollment of approximately 12,000 average-size primary schools, which was more than 12 per cent of all Indonesian public primary schools at that time.

70. Ultimate criterion for the quality of an education system, however, is not only the number of students who graduate, but also what they actually are able to learn and to what extent these results are achieved as a product of scholastic input-factors. The present situation in DMCs can be illustrated by three observations:

(i) Although it is recognized that out-of-school variables, such as the parents' socioeconomic status, also have a significant impact on the students' scholastic achievement, recent research indicates that the input-factors of formal schooling have a greater influence on scholastic achievement in developing countries than in developed countries;

(ii) simple cognitive learning in terms of verbal reproduction of knowledge occupies an inordinately high share of scholastic performance in most DMCs at the expense of higher organized forms of cognitive learning, such as comprehension, analysis and evaluation; also, too little attention is paid to educational objectives of the non-cognitive domains, including psycho-motor, social and attitudinal learning, which are of importance for the application and transfer of knowledge, and which greatly influence motivation, work ethics and other long-term conditions for the successful translation of scholastic achievement to the reality of out-of-school life; and

(iii) in the relatively limited field of cognitive learning (mostly measured by means of achievement tests in mathematics, science and language), significant differences can be found among developing countries; the average scholastic performance in developing countries, however, is far below that in the OECD countries, particularly if the overall yield (in terms of "how many learn how much") is included in the comparison taking into account actual enrollment ratios.

71. Among the reasons for these unsatisfactory results, in addition to out-of-school factors, are poor instructional quality in terms of didactic mediocrity, lack or low quality of instructional media, and inappropriate classroom organization and space utilization. The weaknesses are particularly found in those DMCs and at those levels which underwent rapid expansion in short periods of time. There is, in principle, ample evidence that improving each of these factors directly contributes to reducing wastage and increasing scholastic

achievement. However, it requires a careful assessment on a case-by-case basis to determine the optimal mix of inputs under given circumstances and resources. In some cases, such as when providing more textbooks and instructional media, more funds will be needed, whereas in other cases, such as when adopting more appropriate teaching styles and methods, costs might be little affected, or even cheaper solutions may be found, for instance by increasing the use of the shift system approach or the student-teacher ratio.

3. Relevance and External Efficiency

72. The most efficient system of teaching and learning and the most successful approach to changing human behavior would be useless, even dangerous, if they are not related to legitimate goals within a sociopolitical and economic concept in which direction a nation should develop and how a nation should ultimately look like. Such a concept, by any means, does not need to be static; on the contrary, it will keep on changing and adjusting in a dynamic way, subject to some form of approval by the people. However, without such legitimation even educational systems with optimal internal efficiency would be purposeless, empty and idle mechanisms. Although it might be argued that it is not within the scope of an external assistance agency's responsibility to operate in support of (or against) certain sociopolitical concepts, it certainly is within its responsibility to assess whether an education system to be supported is appropriate in a given national context and relevant to national development goals.

73. During the post-colonial years, the DMCs' increasing awareness of the unique elements in their approach to national development and their growing capacity in conceptualizing adequate responses through education, have resulted in questioning the appropriateness and relevance of inherited educational concepts and curricula to national development. An examination of DMC education policies indicates that a commitment to curriculum reform is widespread. It is perceived that, following the attainment of formal political independence, a common practice was a rather "cosmetic" localization of curricula, usually inherited from a former colonial power. These curricula, particularly at the secondary and post-secondary levels, do not only share, with the rapidly-changing cultural, scientific and technological environment in developed countries, the fate of quick obsolescene, but also suffer from inappropriateness and irrelevance for large portions of the population of traditionally-oriented societies, thus causing a double detriment: of permanently hobbling behind in the race for progress and prosperity in the modern sector on the one hand, and of paying the price of cultural alienation and continued structural dependence on the other.

74. Whether an education system prepares the young generation in an appropriate, relevant and economic way for the requirements and necessities of

the future, is the basic question of external efficiency. Most DMCs have focused their attention on the labor market requirements of the modern sector[1] in the expectation that the successful development of the modern sector will raise the country to a better position in the system of international division of labor and, thus, will make the economy as a whole more competitive on the international scene. Whether this expectation can normally be met or not under the prevailing trade and migration regulations and in view of existing protectionist policies of many industrialized countries is sometimes disputed. On the other hand, since education today is oriented towards a society and anticipated labor markets several years ahead, temporary obstacles in this international economic and trade environment do not necessarily invalidate the mentioned policy priority. There are examples of DMCs, however, where the adoption of an approach focusing mainly on the development of the modern sector has aggravated the dual structure of their societies, thus causing increasingly social tension. Therefore, the issue of external efficiency should also include a careful assessment of the domestic social implications of labor market developments and the education system's preparatory functions.

75. Reforming secondary education to adequately prepare for high technology development is an important task for many of the DMCs at the present time. They must be concerned with science and mathematics curricula and teaching methods, as well as the development of computer skills among secondary school students. The issue is not only the number of hours that students get exposed to science, mathematics and programming, but also the teaching-learning methods that is inherent in the curricula. From several different standpoints, including the ability to innovate, to adapt to rapidly changing work and life situations, and to work independently of direct supervision, a problem-solving approach based on observed reality is much more relevant to present and future development needs than purely abstract memorization or rote learning in order to pass examinations. A problem-solving approach in the science and mathematics curriculum, however, requires a teacher education program that trains secondary educators in such methods.

4. Systematic Structure and Modes of Delivery

76. Generally, education systems in the region are highly selective and oriented towards the requirements of the next levels of educational institutions. Even in the DMCs where universal basic education has been attained, the primary and lower secondary curricula and instructional methods, and certainly their examination and grading systems, serve more the function of selection for the subsequent levels of the system rather than to focus their attention on imparting the knowledge, skills and attitudes needed for those pupils who

[1] The intricate relationship between education and labor markets in the region has been discussed in paras. 43 to 60.

will leave formal education and are expected to participate successfully in community and family life and to participate in the production process. The systematic structure does not provide adequately for a learning experience that relates the knowledge imparted to the social reality and integrates academic elements and practical application. Often, goals and contents are totally detached from the problems and requirements of real life, particularly in poor urban settlements and remote subsistence-centered rural areas, which is one important reason for high dropout rates. The education systems, thus, tend to perpetuate regional imbalances within DMCs, as well as socioeconomic and sociocultural inequities. This, however, does not apply to all DMCs to the same extent. Much progress has been made, for instance, in Sri Lanka and the PRC regarding the alleviation of social inequities, and regarding the better integration of scholastic learning with practical work and societal participation. On the other hand, most South Asian DMCs operate extremely selective secondary education systems favoring a "bookish" academic education for relatively small elites; this extends up to the tertiary level of the education system where between two-thirds and three quarters of the total enrollments are in humanities, arts-based and administration-oriented programs (e.g. India). Special problems with the provision of post-primary education are typical for most SPDMCs where, because of the small number of students, secondary education is, institutionally, least developed and tertiary education almost non-existent, except for PNG, which has two universities and Fiji, which is the site of the University of the South Pacific.

77. The magnitude, profile and structure of education at the secondary and post-secondary levels are often perceived as linked to a country's manpower demand. Particularly, secondary school systems which provide for institutionalized technical-vocational tracks are sometimes considered to be more appropriate to meet labor market requirements, than, for instance, comprehensive schools using diversified curricula, or on-the-job training. This perception has recently been questioned based on observations indicating better employability of pupils graduating from general-academic tracks, and in view of not consistently supportive research evidence regarding the rates of return to technical-vocational secondary education compared to other modes of vocational training,[1] but the evidence is not conclusive. In any case, the real problem is much too complicated to be reduced to a simple dichotomy between technical-vocational and general secondary schools. Historical, political and sociocultural factors, such as a society's predominant views regarding the social status of manual labor; economic factors, such as the labor market's diversity and absorptive capacity at a given point of time; educational factors, such as the quality of instruction at the respective streams or tracks of the system; these, and other factors have their impact on the parents' and pupils'

[1] See, for instance, M. E. Lockheed and E. Hanushek, 1987; D. H. Metcalf, 1985; and G. Psacharopoulos, 1985.

preparedness to enroll in technical-vocational schools or in general academic schools. This intricate pattern of interdependent factors is reflected in the very diverse data on the share of technical-vocational education in secondary school enrollments throughout the region. On the one end of the scale, enrollment percentages for technical-vocational secondary education are lower than 2.0 (e.g. Bangladesh, Burma and Pakistan); on the other end of the scale the percentages are between 15.0 and 20.0 (e.g. PNG, Republic of Korea and Vanuatu).[1] This diversity does not, by any criteria, follow the dividing line between the more and less advanced educational systems among the DMCs, confirming the multitude and intricacy of noneducational factors responsible for the various approaches to technical-vocational education chosen in the DMCs.[2]

78. One central aspect of this issue concerns the economic returns to technical-vocational education. Even if students with specific training would be preferred in employment and even if their productivity would be higher in certain types of job, the cost of technical-vocational education tends to be about five times that of general secondary education. The question is whether any additional benefits resulting from technical-vocational education justify the additional cost.[3] Of equal importance are the implications for traditional technical-vocational education of the new information technology and rapidly-changing production processes being adopted in the region. The new technology appears to demand a labor force with more flexible and general skills rather than specific and narrow training.

79. The two main alternative modes of delivery of vocation-oriented education are on-the-job training (apprenticeships) or semi-institutionalized high-level vocation training organized (and financed) by employers themselves, on the one hand, and the vocationalization of general secondary schools on the other. Both approaches have been subject to controversies for quite some time because they imply a significantly different understanding of who should shoulder the financial burden, and how academic studies and the acquisition of practical skills should be linked to each other and to the realities of the world of labor.[4] Comprehensive field research comparing quality, as well as internal and external efficiency of alternative approaches to technical-vocational education in developing countries does not exist; most arguments regarding the issue are basically of political or financial nature.

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[1] Obviously, such figures depend also very much on the definition of technical-vocational schools used in the respective DMCs. The statistical data available show cases where the enrollment in technical-vocational schools jumped up or down by more than 10 per cent from one reporting date to another, five years later, reflecting apparently a mere redesignation of certain schools by category. However, the data remain useful as rough indicators for the DMCs' approach to organizing technical-vocational education within the secondary school system.

[2] For an overview see UNESCO, 1980.

[3] See, for instance, S. P. Heyneman, 1987.

[4] See, for instance, G. Psacharopoulos, 1986.

80. The traditional vertical structure[1] of the education systems in the region has led to certain common problems throughout the region, the most important being: an overemphasis on formal selection mechanisms at the expense of an integration of scholastic learning with practical application in a realistic social context; little and belated exposure to pre-vocational orientation and polytechnic knowledge; separate and expensive technical-vocational tracks; an underemphasis of science and technology-oriented programs in certain DMCs; and, generally, reluctance to supplement or, where appropriate, replace traditional schooling by alternative modes of delivery, including non-formal education and enterprise-based training. Although the different conditions throughout the DMCs, including population size and structure, their specific cultural outlook and their present status on their way towards modernization and industrialization, must be considered carefully, it appears to be a common task during the next decades to encourage and assist in structural reforms than stabilize and expand systems with the mentioned imperfections. The main focus of such structural reforms would be to link education closer to labor and community life; to increase permeability and avoid dead-end roads; to make education more cost-effective, particularly technical and vocational education; and to ensure a more equitable provision of educational opportunities.

5. Attitudinal Formation and Civic, Social and Value Education

81. Another issue that characterizes education development in the region concerns a number of very complex and serious challenges affecting the developing societies to which their education systems and educators must respond, some of the most important dimensions being:

(i) Scientific and technological standards and complex automated systems, affecting almost all dimensions of human life, seem to develop much more rapidly in developing countries, at least in the modern sector, than the human capability to handle them in an appropriate, safe and beneficial way. Irrational patterns of explaining reality and emotional approaches towards social interaction still pose formidable barriers and have resulted in a pronounced dualism within developing societies and even within individuals. Todate, educational systems in the developing world have not responded adequately to this dilemma by giving strong emphasis to an attitudinal formation which will facilitate the "inculcation of a scientific temper" (Nehru) and the foundation of a rational outlook towards life for the broad majority of the people.

[1] New models of secondary education in the Asian context are discussed in APEID, 1985.

(ii) The adverse impact of economic and industrial development on the environment, particularly in developing countries which continue to be heavily dependent on the exploitation of their natural resources, is not sufficiently recognized and addressed by education. Environmental education,[1] therefore, should go hand in glove with science education and technological training at all levels of the education system.

(iii) Rapid population growth poses a formidable obstacle to the quest for the universalization of primary education and the eradication of illiteracy, and threatens to blight the hope for a lasting improvement of the quality of life in many DMCs. Although a number of DMCs have started to implement population education programs,[2] others are still far from recognizing the problem and, more so, from addressing it in a systematic manner.

(iv) Current educational practices tend to stress increasingly the importance of material benefits and personal gains to the detriment of the development of character, social responsibility, and civic consciousness.

82. For a development finance institution, it might be considered inappropriate to speculate about its role and function in fostering attitudinal formation and civic, social and value education. Although highly sensitive in the multicultural setting of the very young post-colonial history of most DMCs, this issue has been addressed increasingly by the DMCs themselves, notably in the context of regional UNESCO activities,[3] and the formation of attitudes and values, undoubtedly, is an inseparable component of all educational efforts. It is argued that the most sophisticated knowledge and the best skills will be useless, or even dangerous, if they are not coupled with a value concept and broadly accepted personal attitudes which respond to the question how knowledge and skills ultimately, should be applied in the common effort to direct the "spaceship earth" into a safe future. Therefore, peace education, environmental education, population education and social education, to mention only the most important fields of attitudinal formation, must be given an outstanding place in all curricula, simply as a matter of survival. This would, by no means, imply an interference in the sovereign affairs of the individual cultures, but rather a commitment to support the necessary efforts of the DMCs themselves.

[1] Experience with environmental education in the region is reported in UNESCO, 1981.
[2] See the overview in UNESCO, 1982(b).
[3] The term "the growing edge" was coined for this important area of common concern by DMC representatives of UNESCO's Advisory Committee on Regional Co-operation in Education in Asia and the Pacific (Third Session Bangkok, 12-15 March 1985; Fourth Session Bangkok, 12-16 May 1987).

6. Educational Administration, Management and Planning

83. The expansion of formal schooling in DMCs in the past two decades has increased the need for more efficient planning, administration and management of education. In most cases the growth of enrollments and facilities at primary, secondary and tertiary levels has not been accompanied by a corresponding increase in qualified administrative and managerial staff, and educational planning in many DMCs continues to focus on "central" goals and objectives, at the expense of regional and local requirements. Among the main problem areas affecting efficiency are administrative structures and decision-making procedures, interdepartmental management and planning capabilities, and personnel management and training.

84. In many DMCs educational expansion has resulted in a restructuring of educational ministries along lines which correspond to different levels of the education system and types of training. While, to some extent, this reflects the different administrative and managerial needs of education subsectors, it also tends to compartmentalize and restrict administration and management, and poses serious problems of coordination in such areas as curriculum and the effective utilization of personnel. In cases where, either through specific decentralization policies or as a result of constitutional provisions, responsibility for educational management and administration has devolved on regional and provincial authorities, conflicts arise in the educational planning process. In part this is because it is extremely difficult to incorporate local level planning priorities into national development plans. Not infrequently, provincial educational administrators and planners find themselves in the position of having to implement programs and projects which do not meet the requirements of their particular area of responsibility, and the system remains unresponsive to local needs and conditions. Also, it is very difficult for administrative and managerial personnel to monitor and supervise development at district and local levels, where most of the problems of school management are experienced. Therefore, decentralization as such is not an automatic solution, unless decision making reflects a clearly defined division of responsibility between different levels of the system and is accompanied by the means to implement decisions. Indeed, one of the major problems of educational management administration is the delegation of authority to regional and local levels to enable them to deal with day-to-day problems.

85. A feature of today's education and training systems is their complexity and multiagency character. Education ministries are not only required to administer and manage their own facilities, but often, to coordinate and assist those of other government departments and organizations in the private and public sectors. In spite of the diversity of administrative systems throughout the DMCs, the nature of this problem appears to be rather similar, namely, a compartmentalization of responsibilities at different levels and subsectors of

the administrative system, an absence of information flow across departmental and divisional boundaries and, where coordinating bodies do exist, poor communication with lower level administrative authorities. The results, manifest in most DMCs, are partly a duplication of efforts by various educational agencies and authorities and partly the development of education plans and projects which cannot be successfully implemented in the field because they do not reflect the realities of the local situation.

86. No educational system can be more efficient than the people who staff it. Managerial, administrative and planning personnel, like teachers and students, require training, motivation, stimulus and incentives if they are to perform efficiently. Here, leadership style and the manner in which staff are recruited, rewarded, promoted and evaluated are important factors conditioning efficient management and administration of the system. While policies differ from country to country, the relevant issues associated with personnel management are common to all, namely, recruitment and promotion practices, incentive and remuneration systems, performance evaluation techniques and leadership styles. Recruitment to administrative services in most DMCs tends to be via the teaching profession. Few incentives exist for administrative and managerial personnel to increase productivity or efficiency. This has become an especially serious problem in countries where salaries in the public sector have been eroded by inflation and prices have outstripped annual salary increments. There is little motivation, particularly among lower level staff in regional district administrative positions, to improve existing practices. The need, therefore, to provide both pre-service and in-service training in educational management and administration and clearly defined career opportunities is apparent. Not only will this facilitate the upgrading of staff in new management methods and techniques, but it is also essential in a period when technology offers the planner and administrator vastly improved means of expanding the information base for decision making.

7. Appropriate Allocation of Scarce Resources

87. Irrespective of academic disputes on how to operationalize and measure the social and private benefits of education and in spite of all scholarly controversies on the appropriate arithmetics, there is pervasive evidence that human capital investment yields higher economic rates of return than physical capital investment, particularly in developing countries. It is, secondly, also safe to conclude from pertinent research that formal basic education (primary and general lower secondary education) is socially and economically more profitable than any other form of education.[1] From these basic findings two important conclusions for development assistance in education emerge:

[1] For a detailed analysis see G. Psacharopoulos and M. Woodhall, 1985.

(i) there is underinvestment in education throughout the developing world; and

(ii) there is a misallocation of resources and a distortion of assistance focus within the education sector.

The policymaker has to ask: Why is that so and what can be done to change the situation?

88. The main pressures on educational finance include the following:[1]

(i) as in certain other sectors, such as environmental protection and family planning, education has a comparative disadvantage in the intersectoral competition for public budgets because its financial needs are justified mainly on grounds of rather indirect and long-term benefits, whereas direct political short-term performance tends to be credited higher both in the political power game and in public opinion;

(ii) although birth rates have begun to decline in most DMCs, the population growth rates will remain high for some time to come, due to the existing age structure, resulting in the absorption of additional funds for, at best, maintaining the educational status quo;

(iii) unit costs for education show a persistent upward trend particularly at those levels and types of education that require relatively low student-teacher ratios and still depend largely on imported technology and equipment for up-to-date education and training; and

(iv) growing expectations to share the benefits associated with education have led to a rising demand for schooling, which does not always match, both in pace and structure, the respective economies' absorptive capacity.

89. There is a clear case and an objective necessity based on economic arguments to increase DMCs' expenditure on education. As far as public spending in concerned, however, this involves at least two sensitive political issues: firstly, developing countries actually do allocate equal or even higher shares of their state budgets to education compared with developed countries;[2] what lags behind, however, is education's share out of GNP, which would suggest the transfer of a bigger portion of the national product from private pockets to the public budget, for instance by means of taxes, in order to allow for higher budgetary allocations for public education. Secondly, if the

[1] For a detailed analysis see M. Bray and T. Coombe, 1987.

[2] In the early 1980s, the developed countries' share of education in state budgets was around 9.0 per cent, compared to 8.8 per cent in South Asia and 15.0 per cent in Southeast Asia and the Pacific (see A. Mingat and G. Psacharopoulos, 1985, p. 36).

mobilization of additional public revenues would seem to be impossible or politically undesirable, the only solution is to increase education's share of the state budget at the expense of other state-financed sectors; this, of course, would tend to push education's share of the state budget disproportionately high and well above the levels of developed countries, and it would be controversial to determine which other sectors should be drained off. One might even argue that both options are beyond what a multinational assistance agency is responsible to suggest because of the political risks involved on the domestic scene. On the other hand, DMCs themselves have, in distinguished international fora, repeatedly pointed, for instance, at the linkages between resource allocation for the provision of the peoples' basic needs (including education) and current outlays for armaments and debt servicing; and the issue would not be faced squarely if an appeal for increasing relative allocations in one sector were not accompanied by suggestions where the money should come from. In any case, it is difficult to imagine how the obvious backlog of education development in most DMCs compared to leading industrialized countries should be overcome in the foreseeable future without a significant mobilization of additional funds.

90. Aside from expanding the state budget and interbudgetary redistribution, there are two basic options to alleviate financial constraints in the education sector. One is to reduce direct public responsibility by spreading the financial burden towards users and the private sector, the other is to reduce unit costs. Certainly, both approaches should be applied in a combined manner (for instance, by placing a larger share of vocational education under the responsibility of private enterprises); in this context, however, they should be looked at separately to bring out more clearly the main issues involved.

(a) Privatization

91. The recently revitalized debate about privatization as a means to foster economic progress has also affected the education sector.[1] Privatization in education involves various issues related to different types and levels of education and to different approaches to cost recovery.

(i) Only a few industrialized countries, including the United States, rely on a significant private education sector, and no empirical evidence exists which indicates that private schools are more cost-effective than public schools or that private schools produce higher scholastic achievement. Some research data from the developing world claiming to support these assumptions have been questioned because of their limited validity; they mostly stem from countries where higher cost-

[1] See, for instance, E. Jimenez, 1986 and 1987.

effectiveness, if any, goes at the expense of the salaries for teachers, many of them serving in charitable functions performing, explicitly or implicitly, ideological missions which do not necessarily conform with public educational goals. Also, private sectarian schools with the reputation of above-average educational standards are known for their rigidity in implementing mechanisms of selection. While, obviously, each country is free to define the role of this type of schools, they cannot serve as a model for other countries or be viewed as a panacea for lessening the burden on state budgets.

(ii) For technical and vocational education, the privatization option seems to imply prospects of a different quality. Not only have public technical-vocational schools extremely high unit costs, thus imposing a disproportional burden on the state budget but there is also no conclusive evidence that these schools are better suited to produce employable middle-level manpower for the DMC labor markets in transition than alternative modes of delivery. Particularly, highly specialized education for small employment sectors might be better located at enterprise-based training institutions. Under such an arrangement the two main beneficiaries, namely the enterprise as potential employer and the student as potential employee, will contribute to or entirely shoulder the cost of education.

(iii) Another way of privatizing at least the financial side of education is to impose user fees or to recover state outlays through loan schemes. For primary and, probably also, for secondary education, the imposition of user fees[1] will involve serious political questions. After all, the United Nations' Declaration of Human Rights says in Article 26: "Everyone has the right to education. Education shall be free, at least in the elementary stages." In many DMCs which have adopted policy approaches defining education, in the spirit of the UN Declaration, as an integral part of the public welfare system, the imposition of individual user charges will, thus, be ideologically and politically unpalatable, especially under equity aspects. Loan schemes, on the other hand, aim at the higher levels of education which enjoy usually very high levels of public subsidy and where in several DMCs an excess of private demand can be observed. Although international experience cautions against exaggerated expectations of loan schemes, partly because the costs of administration and high default rates seem to reduce the benefits substantially, and partly because of equity considerations,[2] an appropriate mix of public subsidy, student loans and selective scholarships opens an option which should be considered carefully.

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[1] For details see M. Bray, 1988.

[2] See M. Woodhall, 1983; and A. Mingat, Fee-Pang Tan, and M. Hogue, 1985.

92. In summary, the privatization and cost-recovery approaches will only lessen the pressure on public budgets to a limited degree and might entail, at the same time, unpredictable political risks. However, if the specific historical, cultural, economic and political situation of a DMC is carefully taken into account, this path could still provide some budgetary relief.

(b) Reduction of Unit Costs

93. Reduction of unit costs can be approached in two different ways, by trying to achieve the same output at lower costs within a particular level or type of the education system, or by changing the development focus from more expensive to cheaper levels and types, that is by budgetary reallocation within the education sector as a whole.

(i) To achieve the same output at lower costs is basically a matter of increasing internal efficiency, since reducing teachers' salaries (the highest cost component) or increasing teaching loads (an indirect reduction of salaries) can hardly be seen as a promising avenue to cost reduction in DMCs where teacher salaries are already, with few exceptions, at the lower end of salaries paid in the developing world.[1] Measures to increase internal efficiency with potential for cost reduction include: (a) the utilization of local low-cost material for school buildings and equipment; (b) better utilization of existing facilities through room-sharing, multipurpose facilities, and shift systems; (c) measures to increase the attendance ratio of pupils; (d) more domestic production of instructional media;[2] (e) more cost-effective instructional organization, such as team teaching and multigrading; (f) improving instructional methods through better (not more) preservice and in-service training of teachers; (g) the utilization of untrained or semi-trained personnel (e.g. parents) for selective functions on a voluntary basis; and (h) more utilization of nonformal education approaches, including distance education.[3] Some of these measures can be introduced at no or marginal additional costs, while others will require additional funds, but their effects can be expected to outweigh the costs.

(ii) The scope for reallocation of funds within the education sector depends, of course, very much on the specific situation of a DMC, and an across-the-board policy is not possible. The most promising option, however, appears to be the shift of focus from higher levels and public technical-vocational schools to basic general education. This applies,

[1] See J.C. Eichler, 1984.
[2] For practical suggestions how to use and adapt low-cost educational materials see APEID, 1982.
[3] The status of distance education in DMCs is analyzed in UNESCO, 1985(b); and ADB, 1987(b).

particularly, to countries with excessively high costs (e.g. PNG) or excessively high private demand for higher education (e.g. India and the Philippines). As research evidence indicates that the rates of return to primary and general secondary education are generally higher than those to tertiary education, the DMCs must consider either to increase the investment in lower levels of education relative to higher education or to reduce the share of higher education expenditure borne by the public sector at the expense of private contributions. Similar effects can be expected, although not necessarily in the same DMCs, by reducing public involvement in technical-vocational secondary education in favor of other modes of delivery, such as enterprise-based training.

CHAPTER III

THE BANK'S ROLE IN ASSISTING EDUCATION DEVELOPMENT

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A. THE BANK'S PAST POLICY AND PERFORMANCE

1. Emerging Policy Based on Growing Experience

94. The Bank started lending to the education sector in 1970. The first loan[1] was preceded by a Staff Study Paper entitled "The Role of the ADB in the Field of Education", which emphasized that Bank assistance should be provided to develop education and training systems which would produce an adequate supply of manpower skills to meet the requirements of strategically important sectors of the economy, with focus on the qualitative aspects of selected programs which would have a long-lasting effect on the educational system as a whole. Following this general recommendation, highest priority was accorded to on-the-job training, vocational and technical education in secondary schools, education and training in science and technology, and manpower training. Throughout the 1970s, the Bank approved a number of projects in line with these policy priorities.

95. Operations in the education sector (like in other social infrastructure sectors) were under the responsibility of the Bank's Industry Division within the Projects Department. In 1978, as the result of a major reorganization in response to the growing need for diversified lending operations, a Social Infrastructure Division (comprising Education, Health and Population, as well as Urban Development) was created within the Infrastructure Department. Within this more conducive organizational framework and based on the experience of appraising and implementing the early projects as well as on the findings and recommendations of a staff sector review,[2] other educational subsectors were considered appropriate for Bank support, among them "basic education" and "second chance education". The ensuing expanded lending program included, for instance, a Textbook Printing Project[3] and a Community Schools Project.[4] Finally, the technical specialization and the quantity of operational and administrative work in the education sector made it necessary to form a separate Education Division in 1982. Education was given a separate place in the Bank's Operational Manual (1983) and the way was paved to develop a full-fledged program for assistance operations in the education sector.

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[1] For the "Ngee Ann Technical College Expansion Project" in Singapore, amounting to $3.0 million.
[2] "A Regional Study on Education", September, 1980.
[3] Pakistan, 1979.
[4] Bangladesh, 1981.

96. Summarizing the emergence of the Bank's education sector policy from its early sporadic projects until the mid-1980s, a trend becomes visible showing a gradual expansion of the operational scope from a rather narrow manpower requirements rationale (on-the-job training, vocational and technical education, and higher education in the fields of science and technology) to a much broader approach stipulated in the revised Operations Manual (1986) which states: "The general objective of education projects is to assist DMCs in establishing effective and efficient education systems which are responsive both to the requirements of their economies for technical manpower and to the demand for general literacy and education of their populations." Further, the Manual emphasizes the increasing demand for education in many DMCs "particularly at the primary level", and affirms that "the Bank will play a larger role in financing projects designed to upgrade literacy of the general population".

2. Summary of Lending and Technical Assistance Operations

97. The Bank considers education and training as the most durable basis for economic progress. This is reflected in its actual lending and technical assistance operations. In 1986, for instance, 31 out of the 48 loans approved were either wholly for education and training or, in projects other than in the education sector, included specific project-related training components. The Bank has a long tradition of supporting built-in training components in projects of almost all sectors. Road improvement, urban development and aquaculture development projects, for instance, provide for the training of skilled workers or managers in operation and maintenance of equipment and machinery. At present, the Bank is engaged in developing an approach for a better coordination and monitoring of project-related training components in order to improve the overall efficiency. Most important, however, are expansion and improvement of education systems as a whole, beyond and preceding any specific job-related training. This section deals with the Bank's assistance policy to the education sector in that broader sense.

98. As of 31 December 1987,[1] the Bank had approved a total of 32 projects (35 loans)[2] in the education sector amounting to $856.8 million, of which $633.1 million has been from OCR funds (18 loans) and $223.7 million from ADF funds (17 loans). The average loan amount increased from $5.52 million

[1] See Annex I (List of the Bank's Loan Projects in the Education Sector as of 31 December 1987).
[2] For two projects blended loans were given (Thailand "Vocational Education" and PNG "Technical Education"), with one loan each from OCR funds and one loan each from ADF funds. A Special Project Implementation Assistance Loan (to Indonesia) was extended in 1986 to assist in meeting local currency shortfall in ongoing education projects.

during the first five-year period (1972-1976) to $47.38 million between 1983 and 1987. By 31 December 1987, 11 loan projects were completed. Total disbursements as of 31 December 1987 was $261.4 million, which is 30.5 per cent of the total loan amount approved. Although actual disbursements have increased significantly in recent years, the gap between commitments and disbursements is likely to become bigger, reflecting the increase in lending.

99. Technical Assistance approvals in the education sector[1] amounted to $10,801,920, of which $1,119,000 has been for regional TAs (10.4 per cent) project preparatory (PP) TAs, in terms of total amount financed, had a share of 60.5 per cent of all country-specific TAs, the remainder being advisory and operational (A&O) TAs.

100. The education sector's cumulative share of the Bank's total lending operations (excluding training components of projects other than education) was about 3.9 per cent by the end of the budget year 1987. Since 1980, the annual share of education loans as a portion of the Bank's total lending operations, as shown in Table 6, fluctuated between 2.8 and 6.7 per cent, with the highest share of 6.7 per cent in 1983.

Table 6: **Loan Approvals Bank Total (OCR and ADF) and in the Education Sector**

Year	Loans Total ($ million)	Education Loans ($ million)	Education Loans (% of Total Loans)
Until 1980	8,093	213.8	2.6
1981	1,678	82.5	4.9
1982	1,731	64.1	3.7
1983	1,893	126.0	6.7
1984	2,234	122.3	5.4
1985	1,908	66.7	3.5
1986	2,004	112.6	5.0
1987	2,439	68.8	2.8
1967-1987	21,980	856.8	3.9

The number of education loan projects per year, between two and four, has remained stable during the past decade; additional staff capacity was absorbed largely by the rapidly increasing work for administration of projects under implementation, the evaluation of completed projects, an increasing number of regional and advisory TAs, and by more staff input devoted to sector work.

[1] See Annex J (List of the Bank's Technical Assistance Projects in the Education Sector as of 31 December 1987).

3. Main Features of Past Performance

101. Lending operations in the education sector have not been proportionally distributed among the Bank's 29 DMCs. Some DMCs, for various reasons, have not availed themselves of the Bank's lending facilities at all, while others preferred to borrow for sectors other than education; in some cases, however, the absence of any Bank-financed education projects may have been caused by certain imperfections in the Bank's approach of dealing with its potential borrowers. Whatever the reasons in particular. the Bank's lending operations have been limited, so far, to 12 of the 29 DMCs. In terms of total loan amount approved, nearly 90 per cent of all loans have been given to only six countries: Bangladesh, Indonesia, Republic of Korea, Malaysia, Pakistan and Philippines. Indonesia alone has absorbed 47.1 per cent of the total loan amount approved in the education sector. However, some of the DMCs which have not borrowed for education projects so far (Burma, Kiribati, Vanuatu and Viet Nam) have availed themselves of country-specific TA grants in education;[1] while virtually all DMCs have been involved, in one way or another, in regional TA projects, e.g. through participation in education seminars and training workshops.

102. The subsectoral distribution of loans is another important indicator for the assessment of the Bank's past performance in the education sector. It is not surprising that, in view of the education sector's history within the Bank's operations, particularly its emergence out of industrial development projects and related manpower requirements and training needs, a clear bias in favor of the technical-vocational education and specialized manpower training subsectors resulted; of 34 approved loans,[2] a total of 18 loans was given for projects in these fields. Second and third ranked are higher education (with orientation towards engineering and technology) and science education, with six and five loans, respectively. Other subsectors, such as agricultural education and non-formal educational (rural training), received one loan each. No loan had been approved, at the cut-off date of the comparison, for primary education and general secondary education. However, one primary education loan[3] is presently being prepared, while one loan for secondary education was recently approved.[4] In general, there has been a tendency towards more diversification of the lending portfolio during recent years; this becomes especially apparent when looking at the individual projects' scope and components, rather than at the projects' titles and main foci.

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[1] In total, 16 out of the Bank's 29 DMCs were covered by the Bank's country-specific TA operations in education.
[2] Not included is 822-INO: Special Project Implementation Assistance.
[3] Pakistan "Primary Education (Girls)".
[4] Philippines "Secondary Education Development Sector" Project; Loan No. 898-PHI.

103. On average, project components aimed at improving and strengthening of genuine educational measures, such as curriculum development and staff training, appear to have been underemphasized as far as financial inputs are concerned. An estimated three-fourth of total project costs were devoted (upon appraisal) to buildings and civil works, equipment and furniture. This prima facie impression, however, is misleading, since substantial portions of these "hardware" components have been designed as integral and necessary parts of comprehensive curriculum upgrading strategies, particularly the construction of workshops and science laboratories and the procurement of didactical equipment and media. Moreover, such components tend to be much more capital-intensive than, for instance, consultant services for curriculum development or staff training courses, which limits the validity of simple cost comparisons on the basis of project components. As a general trend, however, the emphasis on fellowships, staff training and curriculum development has been strengthened in recent projects.

104. It is known today that assistance to the education sector means much more than simply financing the expansion and modernization of instruction facilities or providing funds for fellowships and training. Many problems are encountered when implementation of a project begins. Among such problems are the long-term effects of incremental recurrent costs, the maintenance of instructional equipment and the regular supply of spare parts and consumables, the upgrading of managerial competence to handle more complex systems, further training of staff, and the transfer of managerial capability to domestic institutions. It needed the practical experience with the earlier projects for the Bank — like other comparable organizations — to fully emancipate itself from the less sophisticated and sometimes overoptimistic views of the pioneer years. Particularly, the evaluation of the projects' direct benefits and indirect long-term impact of projects was increasingly experienced as difficult and imperfect. Therefore, attention began to focus on looking for assessment parameters more appropriate for education projects, together with the development of suitable methods for Project Benefit Monitoring and Evaluation (PBME) as built-in mechanisms in new projects.

105. The Bank's post-evaluation of completed education projects has proven to be an important exercise to help adjust its lending operations. Among the findings which surfaced in project evaluation, the following are the most important ones:

(i) Project preparation was not always sufficiently detailed; principally well-balanced projects turned out to be rather construction-oriented during implementation, and inexperienced executing agencies changed the project scope away from the original focus identified during appraisal.

(ii) Not enough attention was given to built-in staff development programs to ensure project sustainability.

(iii) Arrangements for continuous monitoring and evaluation of projects were insufficient; particularly, the collection and analysis of data on internal and external efficiency was inadequate.

(iv) Too little consideration was given to appropriate measures of cost-recovery.

(v) Specific projects did not sufficiently relate to the sociocultural and economic environment, in general, and the structure of the education system, in particular.

(vi) No appropriate incentive mechanisms were provided to retain efficient and capable staff at project institutions.

106. With growing experience in project identification, appraisal and implementation, and as a direct consequence of an improving evaluation methodology, the Bank gradually broadened its general technical competence as a regional resource center in education and strengthened its advisory capacity. This resulted, firstly, in the organization of a series of regional seminars and workshops starting in the early 1980s, and in using a significant portion of the TA funds for the provision of advisory TA grants to several countries. Among these initiatives, the seminars on the Training of Instructor Trainers (held jointly by the Bank and ILO) in 1983 and on Distance Education in 1986, as well as the Regional Workshop on Technical Teacher Training in 1986 deserve special mention. Secondly, regular sector work was added to the activities of the Education Division in order to prepare the ground for a more systematic approach to project identification and appraisal both in the national and regional contexts. As of 1987, comprehensive country sector studies were prepared for Bangladesh, Indonesia, Nepal and Pakistan, and more country studies are planned. This sector work resulted in a project pipeline with a substantially widened scope and, ultimately, in the present overall review of the education sector assistance policy.

B. EXTERNAL ASSISTANCE TO THE SECTOR BY OTHER AGENCIES

1. The World Bank[1]

107. For the region as a whole, the World Bank is the most important development finance institution in the education sector. During the past two decades, the World Bank has given nearly 90 loans totalling more than $3 billion to 16 of the 29 DMCs of the Bank. The large number of World Bank "general" education projects[2] makes it difficult to categorize percentages of

[1] The term "World Bank" in this paper refers to the International Bank for Reconstruction and Development (IBRD) and its affiliate the International Development Association (IDA).

[2] These loans in the general category cover more than one subsector or level of the education system.

lending activities according to type of project or level of education, but more than one-third of loans outside this "general" category were for higher education, including polytechnics and higher technical education (of which 90 per cent to the PRC and Indonesia); one-fifth, for primary and general secondary education (about 90 per cent of these funds given to Bangladesh, Malaysia, Papua New Guinea, Philippines, Thailand); one-eighth were for agricultural education (almost all to the PRC and Indonesia); about one-tenth for specialized manpower training (largely to Indonesia); about one-tenth for vocational-technical education and industrial training (with almost 80 per cent going to Bangladesh, Malaysia and Pakistan) and the remaining loans, for science and technology education, teacher training, nonformal education, and infrastructure development.

108. Almost 95 per cent of all World Bank loans in the education sector given to the Bank's DMCs were to eight countries only: Indonesia ranked number one (with close to 30 per cent), followed by PRC (more than 20 per cent), Malaysia (about 11 per cent), Republic of Korea (nearly 10 per cent), and Bangladesh (about 7.5 per cent); Philippines, Thailand and Pakistan each received between 6.5 and 5 per cent of all education loans in the Asia-Pacific region. The remaining loans with percentage shares between 2.2 and 0.1 were given to Afghanistan, India, Nepal, Papua New Guinea, Singapore, Solomon Islands, Sri Lanka and Vanuatu.

109. To compare the World Bank's education sector policy with that of the Asian Development Bank is problematical, mainly because the World Bank started lending in the education sector ten years earlier, and its worldwide scope, including developing regions with rather diverse needs, has, of course, influenced its policy development in particular ways. Much of the World Bank's recent sector work and operational research in education, for instance, relates to Africa and Latin America.[1] As far as Asia is concerned, the outstanding share of the PRC and Indonesia in the World Bank's lending operations certainly had a bearing on the foci of attention for education development in Asia as a whole. Nevertheless, some salient features of the World Bank's policy development in the education sector may be highlighted to illustrate the wide policy context in which external aid for the education sector in Asia must be seen.

(i) The World Bank started its lending program in education with a clear emphasis on technical and vocational education at various levels, and, in general, on secondary education. Up to around 1970, the projects focused almost entirely on construction and equipment.

(ii) Attention to qualitative aspects of education, to software components, and to experimental and alternative approaches in education

[1] See R. Horn and R. Kollodge, 1987.

was given increasingly in the 1970s. Following the issuance of an Education Sector Policy Paper[1] in 1974, it was recognized that overemphasis on the modern sectors of the economy in many developing countries had resulted in an overallocation of funds to secondary and higher education. Subsequently, basic education became a major area of World Bank concern and equity considerations were stressed more clearly.

(iii) The World Bank's Education Sector Policy Paper of 1980[2] was conceptualized as a very comprehensive analytical framework for external aid operations, based on and incorporating a broad variety of pertinent research. Among the principles for future lending operations, the document stressed basic education for all, with the long-term prospect to develop comprehensive systems of formal and nonformal education at all levels; equity considerations; more attention to the education systems' internal efficiency; a closer relationship between education, work and environment; and building and maintaining domestic institutional capacities. Further, a more guiding role of UNESCO and the World Bank[3] for its member countries' education development was proclaimed involving more direct domestic responsibilities on the part of the recipient countries and more emphasis on structural adjustment lending on the part of the World Bank.

(iv) In recent years, the World Bank has given much attention to regional and subsectoral policy analysis. This trend is likely to be continued after its reorganization in 1987. In the education sector, a comprehensive policy study for sub-Saharan Africa has been completed, a major study on vocational-technical education is underway, and studies on the internal efficiency and quality of primary and secondary schools, and on education sector management have begun.

2. UNESCO's and ILO's Regional Activities

110. Like other United Nations specialized agencies, UNESCO generally operates under the umbrella of the United Nations Development Programme (UNDP), which provides funding for most of the UNESCO projects in the region. As of 1986, UNESCO was involved in more than 250 projects in the 29 DMCs of the Bank. These projects were in 26 countries, excluding only Cam-

[1] World Bank, 1974.
[2] World Bank, 1980 (b).
[3] Since 1964, UNESCO and World Bank have collaborated in a Cooperative Program. Until 1980, more than two-thirds of the education projects financed by the World Bank were identified or prepared under this Program.

bodia, Hong Kong and Taipei,China.[1] In addition, UNESCO operated about 70 regional projects, which served more than one DMC. Among the leading project recipients are India, Indonesia, Pakistan, Sri Lanka and Thailand. The ILO provided assistance to 23 DMCs of the Bank, primarily to Bangladesh, India, Indonesia and Thailand, although a number of smaller countries received considerable assistance.

111. These United Nations agencies emphasize vocational-technical education and training (particularly ILO), educational planning and management, science education, and population education. In terms of direct project activities, UNESCO gives lower priority to higher education and teacher education. If textbook and equipment development, curriculum development and education development are assumed to go entirely to primary education, then primary education received a little more than 10 per cent of UNESCO projects. Nonformal education and literacy training projects were between 2 and 3 per cent. Such figures, however, tend to be misleading, as UNESCO's and ILO's main emphases are not on project work, but on initiating and monitoring comprehensive programs, and on networking existing national and regional institutions and activities, and the organizations' impact, therefore, cannot be validly assessed in terms of funds allocated or projects undertaken. Examples of regional cooperation programs under UNESCO are the Asia and Pacific Program of Education for All (APPEAL)[2] and the Asia and Pacific Program of Educational Innovation for Development (APEID);[3] examples of regional programs under ILO are the Asian and Pacific Skill Development Program (APSDEP)[4] and the Asian Regional Team for Employment Promotion (ARTEP).[5]

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[1] Taipei,China, is not a UNESCO member state.

[2] APPEAL is a coordinating framework for participating member states fostering, as the three main action areas, eradication of illiteracy, universalization of primary education, and continuing education for development. APPEAL's emphasis is on mass implementation.

[3] APEID is a comprehensive network of program areas, the most significant being universalization of primary education, continuing education, education and the world of work, restructuring secondary education, educational technology and information technology, and training of personnel for professional support services and distance education. APEID's emphasis is on innovation and research.

[4] APSDEP, with its central office in Islamabad, is a network system of the ILO and participating governments, employers' and workers' organizations to foster regional technical cooperation in vocational training. Its overall objective is to promote vocational training and access to vocational training in all sectors of the economy and at all levels of skill and responsibility, in both formal and nonformal settings.

[5] ARTEP, with its central office in New Delhi, is the regional arm of the ILO's World Employment Program (WEP). Under this program, ILO's assistance ranges from analyses of the impact of macroeconomic factors on employment and the development of techniques for nationwide employment planning to local-level projects for employment and income generation.

3. Bilateral Donor Assistance

112. Except for a few countries, no reliable sources exist which allow the compilation of exact data on bilateral assistance projects to DMCs in the education sector. The following general overview, therefore, is based on various informal and formal published listings and must be interpreted with caution. Compared to the more than $4 billion in education loans given to DMCs by the World Bank and the Asian Development Bank from 1965 to 1987, bilateral assistance for education in the region is rather small in financial volume, perhaps less than $500 million over the same period.

113. Some salient features in bilateral assistance for education are discernible. Some donors seem to favor certain recipient countries; the type of assistance varies, but scholarship and fellowship assistance appears to be the largest component, followed by equipment and technical assistance; and apparent is a mix of Official Development Assistance (ODA), assistance through nongovernmental organizations (NGOs), and the deployment of volunteers who are specialists in particular fields.

114. On a smaller scale, there is technical cooperation among developing countries: Sri Lanka, for example, assists the Maldives; India assists, among others, Bhutan, Fiji and Lao PDR; and the Republic of Korea assists Malaysia. Regional training centers, such as the Technical Teachers' College in Malaysia, the Asian Institute of Management in the Philippines, and the Asian Institute of Technology in Thailand, are other examples of regional cooperative ventures in education.

115. With about 50 per cent of bilateral assistance from the major donors, Indonesia appears to have received the largest share of bilateral aid in the past, followed by Bangladesh, Malaysia, Pakistan and Thailand.

C. THE BANK'S FUTURE ASSISTANCE POLICIES AND PRIORITIES

1. Basic Thrust of the Bank's Involvement in the Education Sector

116. The Bank's assistance policy in the education sector is based on the view that education and human resource development assume a very special position among the various sectors of development assistance. For the welfare and further development of humankind, for the organization of societies, and ultimately, for the survival of the human species, education is not just one instrument among others, not just one "sector" out of many; education, indeed, is the *conditio sine qua non* for development itself. There is no development without education. There might be development without biotechnology or nuclear power generation, but certainly not without education. Examples are

legion, both from advanced industrialized countries and from less industrialized countries, that sophisticated plants and machineries collapsed in disaster due to "human error", a term behind which a multitude of educational failures is hidden, be it lack of knowledge or skills, be it sluggish work ethics, or be it socially irresponsible attitudes.

117. Development is a complex cultural and civilizing phenomenon in which economic growth plays an important but not the only role. In this complex process, education has a double role to play:

(i) It summarizes institutional and noninstitutional measures which hold a culture together and which facilitate the transmission of a shared heritage from one generation to the next, including the transmission of what is new to that culture, or what is being borrowed or adopted from other cultures. In this general role, education is the centerpiece of development as such, and "education for all" is a logical consequence which would not need any further justification.

(ii) Education also serves as a catalyst for promoting knowledge and skills needed for improved, i.e. more efficient and more productive ways and means to organize human life under conditions widely perceived as "materially and spiritually better".[1] In this special role, its justification will follow economic lines to the extent that progress and prosperity are dependent on economic growth.

118. Education should be regarded both as a basic need and a human right.[2] This notion is in line with a development concept promulgated by the United Nations General Assembly as early as 1970 which determined the six pillars for a better life for all people as "education, health, nutrition, housing, social welfare and to safeguard the environment". Such a concept is compatible with the understanding of education as human capital investment,[3] and thus, with the Bank's mandate to foster economic development,[4] and determines the conceptual and, ultimately, ethical framework within which such understanding finds its justification. It also emphasizes the important functional role of a broad basic education as the most reliable source from which any form of specialized education, imparting knowledge and skills to enhance productivity and to contribute to economic growth, may be drawn.

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[1] M. P. Todaro, 1977 (1981).

[2] The Bank shares this fundamental policy thrust with other development finance institutions (see, for example, World Bank, 1980(b), p. 86, and African Development Bank, 1986, p. 6); the economic aspects of a "human capital basic needs strategy" have been outlined by M. Dowling, 1982.

[3] The view of education as human capital investment limits the value of education to its role as a production factor and focuses, thus, on the development of skilled manpower needed for specific sectors of the economy.

[4] See ADB, 1965, p. 2.

2. Rationale, Priorities and Policy Principles

119. All DMCs have shown a growing awareness of the critical importance of education for the process of national development. In particular, the goal of attaining universal primary education (UPE) has become a priority objective for those DMCs still lagging behind in establishing basic educational provision for all people; and universalization of access to educational facilities well beyond the primary level is widely recognized as an unquestionable right in the more advanced DMCs which have achieved UPE. At the same time, and irrespective of their particular position in the development process, most DMCs have begun to focus their attention on working towards structural reforms to make their education systems more responsive to the future requirements of labor markets in quick transition. Finally, and politically most difficult, many DMCs have realized that significant, sometimes drastic changes in their funding policies (including intra and intersectoral redistribution of resources, the mobilization of new resources, and the adoption of low-cost approaches to education) need to be carried out, if they want to ever catch up with competing more advanced economies.

120. The Bank must adjust its assistance policy to this changing operational environment and respond adequately to these priority issues widely perceived throughout the region. The rationale for the Bank's involvement in education development, thus, is determined between "education for all" as the general bottom line, and "improved productive capability" under quickly changing labor market conditions as a particular necessity to be justified, case by case, in its functional role for progress and prosperity.

121. The analysis of the present state of education development in the region together with the specific linkages between education systems and future labor market requirements has highlighted the intraregional imbalance as well as the common problems characterizing the present situation. Obviously, the pronounced differences within the region call *a priori* for a diversified assistance policy, taking into account specific subregional and national needs. The common problems, on the other hand, call for the adoption of some overarching policy principles for the provision of education development.

122. Among the most important common policy principles to be applied for the region as a whole are the following:

(i) improvement of efficiency and quality of education in all subsectors and at all levels is a crucial concern, including the optimal management and utilization of infrastructural and educational resources, the provision of appropriate and relevant curricula, and the formation of attitudes and work ethics among teachers and students necessary for success and productivity both in education and in any job;

(ii) stable and sustainable development depends on equitable participation in and distribution of the benefits from the development process, and measures to achieve more socioeconomic, geo-demographic and gender-specific equity are needed;

(iii) the ever-increasing cost of education, aggravated by continued population growth, calls for an unbiased assessment of potential sources for financing of education and the provision of special assistance to educational reforms which focus on the mobilization and utilization of domestic resources and low-cost alternatives, including new types of more cost-effective education, such as distance education; and

(iv) important is the strengthening of civic education that stresses and develops moral character and social consciousness, values and responsibilities, while counteracting pure consumerism and interest in material gains, negligence of the environment and unplanned growth of population.

123. Among the priorities in a diversified assistance policy are the following:

(i) DMCs which suffer from high rates of adult illiteracy and have not yet achieved UPE or which suffer from inadequate or deteriorating quality of basic education, would need assistance in expanding and strengthening primary education and adult literacy training programs;

(ii) DMCs which suffer from a pronounced mismatch between education and labor, would need assistance for expanding and improving secondary schooling, including structural reforms of technical-vocational education within and outside the secondary school system to become more responsive to structures and prospects of labor markets;

(iii) DMCs which have been successful in their ways towards "education for all", but suffer from shortages of specialized professional manpower, would need assistance in expansion and upgrading of senior secondary and post-secondary education;

(iv) DMCs which have reached high levels of industrialization and advanced to the stage of high-technology exporters, would need assistance in expanding post-secondary education and/or in structural higher education reforms aimed at bringing down unit costs;

(v) DMCs which suffer from extreme imbalances in resource distribution within the education sector and low relative cost-effectiveness of the education system as a whole, would need assistance in rationalization and management; and

(vi) the small island and archipelagic countries, as well as the small landlocked countries, have special problems which cannot be addressed

adequately by development strategies based on models derived from large-country paradigms, and intervention strategies suitable to their special situation need to be developed.

3. Sectoral Priorities

124. The Bank's past assistance to the education sector has begun to gradually emancipate from a rather narrow subsectoral focus to a more flexible approach, based on experience with ongoing projects, enhanced policy dialogue, country sector studies, and post-evaluation findings. The systematic review of education in the region indicates that the objective sectoral needs are broader and yet more specific than covered by the Bank's traditional lending activities. Certain subsectors of high relevance for balanced and sustainable development and with high economic returns, such as primary education and general secondary education, need to be included in the Bank's assistance portfolio. At the same time, certain features of project design and project components crucial to efficiency and effectiveness, such as staff training and curriculum development, need to be strengthened. Thus, while the widening of the subsectoral scope may appear, at first sight, all-embracing — and, certainly, the quantitative expansion of the Bank's assistance to the education sector is an important conclusion from this analysis — the assistance foci suggested within each subsector specify direction and the means expected to be most effective and important in the Bank's future sectoral activities.

125. The DMCs' commitment to the provision of some basic level of education for all is to be operationalized in terms of external assistance to formal primary education, on the one hand, and nonformal adult literacy training, on the other. The Bank views assistance to the primary education subsector, particularly, as a relevant strategy in poverty alleviation and has started to prepare pertinent projects with this objective, such as the Primary Education (Girls) Project in Pakistan. This needs to be supported by a set of ancillary initiatives that might be projects in their own right, or subprojects or components of comprehensive sector loans. Such initiatives must comprise educational management, development of and training in new didactical methods, instructional materials development, and community-based education programs; and they must reach out to higher levels of the formal education system inasmuch as they include pre-service and in-service training of teachers. The Teacher Education Project in Nepal presently being prepared for Bank financing is one example of such ancillary initiatives.

126. Another priority is the broadening and differentiation of secondary education, particularly in the DMCs which have developed primary education to an extent, that pressures for expansion at the secondary level are now felt. However, the support of too narrow and potentially short-lived vocational specializations in highly selective and costly secondary education systems, in-

volving the risk of creating or increasing the number of unemployable graduates, should be avoided. Instead, more emphasis on flexible and self-directed learning patterns, as well as, to a certain extent, on developing the technical and vocational components of secondary education as a whole should be considered. This includes the reduction of the organizational and curricular gap between general secondary education and technical-vocational education. In any case, assistance to technical and vocational education should be planned and implemented under the wider ambit of reforms of secondary education as a whole. The policy principle of improving the quality of education is to be applied at the secondary level as well. In line with this principle, project components aimed at curriculum reform, textbook and educational equipment development, as well as teacher training and upgrading need to receive emphasis. The Bank's recently approved Secondary Education Development Sector Project in the Philippines is an example of a project with such a broad subsectoral approach. Aiming at improving the quality of education, increasing efficiency of the education system, and expanding access to education, its components include the implementation of new curricula, the provision of instructional materials and textbooks and teacher training. At the same time, measures are being adopted to rationalize the system and to direct its benefits, on a priority basis, to disadvantaged regions.

127. At the post-secondary level, structural reform strategies should emphasize rationalization and cost-saving, on the one hand, and strengthening more appropriate alternative approaches to higher education, on the other. Open universities or distance teaching programs may be suitable options for some countries, and the diversification of college-level or polytechnic education for others, e.g. the SPDMCs or small and landlocked DMCs. This will help to provide access to post-secondary education to a broader cross-section of DMC populations including mature and employed individuals, who wish to upgrade their qualifications, than can be done through traditional universities. It is recognized, however, that at the tertiary level the degree of intraregional divergence in education development is even more pronounced than for the education sector as a whole. Consequently, the Bank must develop significantly-diversified subregional policy priorities to service different requirements adequately, such as specialized post-secondary technical training in more advanced DMCs in concert with their levels of industrialization, as opposed to the less specialized, short-cycled, rural-focused training needs of most South and Southeast Asian DMCs. In some DMCs with very complex problems at the post-secondary level, lending activities must be preceded by advisory and operational TA studies, such as the recently completed Study on Rationalization and Savings in Higher Education for PNG.

128. Formal education systems are not always capable of meeting the demand for education of the entire population, particularly the disadvantaged groups in remote rural areas or urban slums. For some DMCs, the cost of the

expansion and reform of formal education systems aiming at the entire school-age population including dropouts and re-trainees is prohibitive due to either a rapid population growth or specific development problems in times of economic crisis. Here, special attention must be given to nonformal education (NFE). NFE should be strengthened as a subsector fully integrated into the national education systems, as a flexible low-cost alternative in its own right, aimed at complementing the formal education systems. This will require imagination and rethinking among policymakers and educators, as well as full political commitment on the part of the DMCs themselves. The Bank has planned to assist in the development of NFE, e.g. with the preparation of a Non-Formal Education Project in Bangladesh.

129. A fifth subsectoral priority area is more amorphous than the others. It is the strengthening of institutional development and research capabilities, including planning and management. This policy priority has important long-term implications for the DMCs' autonomy in shaping and promoting the national development process across all sectors of economy, administration and even politics. While the capital requirements for such a focus are not large, fellowship and other training components would likely to be considerable. In the education and training sector, the development of national (or regional) research and development capabilities is designed to lessen the dependence upon foreign expertise for the formulation of locally-relevant policies and practicies in national education systems. This may include, for instance, the development of appropriate testing and measurement systems, curriculum innovations and revision of instructional methodology as well as management and administrative capabilities.

4. Operational Priorities

130. One common feature of many subsectoral priorities outlined above is the need for structural reforms, particularly at the post-primary levels. This will result in more emphasis on careful dialogues with the DMCs concerned regarding their sectoral development policies, without, of course, trying to impose specific policy changes. In support of this approach, sector work must be broadened, and the early phases of the project processing cycle, e.g. reconnaissance and identification, strengthened.

131. Generally, the Bank must make a more flexible use of its operational instruments for assistance to the education sector. This must include, in addition to traditional project loans, the expansion of sector lending, covering an entire subsector or subprojects from the whole gamut of subsectors, and of program lending aimed at modernization, rationalization and reform of existing structures and capacities in a sector or subsector,[1] including reforms

[1] See: A Review of Program Lending Policies. Board Paper R117-87 (21 September 1987).

of educational finance and measures to alleviate poverty.[1] It is not necessary that sector and program lending be expanded at the expense of conventional project lending, which has its own merits and advantages. The Bank would rather aim at increasing resource allocation to the education sector in absolute terms. The social infrastructure sector's historical share of 15 per cent, in general, and education's stagnating share of between 3 and 6 per cent out of the Bank's total lending operations,[2] in particular, do not adequately reflect the crucial role of social infrastructure development and education in the development process as a whole. Therefore, sector and program lending need to be strengthened also as a means to expand the Bank's sectoral involvement.

132. Such expansion will also prevent, when the subsectoral scope of the Bank's lending activities in education is widened, the spreading of its resources too thinly. The Bank has built up considerable expertise in its conventional areas of education assistance, such as technical-vocational education, science education and higher education. This expertise needs to be consolidated and utilized in DMCs where assistance to these subsectors continues to be feasible. Reaching new subsectors which have proven to be underserved, is an additional task for which expertise has to be established and fresh resources need to be mobilized.

133. To a certain extent, the Bank in the past has, like other development finance agencies, overestimated the relevance and effects of investment in physical capital, such as buildings and equipment. To construct buildings, however, instead of building institutions has proven to be a rather questionable approach. The Bank, thus, has started to clearly emphasize the genuinely educational project components and comprehensive sectoral reform programs, utilizing to the extent possible existing physical facilities. This new emphasis as well as the advocated expansion of utilization of domestic capabilities implied in many of the subsectoral initiatives proposed above, have some consequences for the Bank's financial policies in general and the project funding arrangements in particular. Among these consequences will be the adjustment of the Bank's approach to funding recurrent costs and to direct budgetary support; local cost financing particularly in the case of primary education projects; and wider use of domestic consultants in Bank projects.

134. Particularly, the DMCs' experience is that financing recurrent costs after project completion is often very difficult, when donor agencies have sometimes shouldered more than 90 per cent of the initial project costs. This requires a fresh look at possibilities to alleviate this constraint in order to insure project sustainability. While sector lending, certainly, is an important

[1] See: Task Force Report on the Bank's Role in Poverty Alleviation, Board Paper IN.152-88 (9 August 1988).
[2] See para 100 and Table 6.

step in that it may result in more funds, more direct financial contributions on the part of the Bank would need to complement this approach. Among the options available, in the context of human capital formation, will be to find ways and justifications to convert recurrent costs into capital costs in order to make them fully eligible for Bank financing. However, the Bank's facilitating role as a catalyst for development would make it necessary, to maintain reasonable limits for such type of budgetary assistance, otherwise the DMCs' stake in the projects might get lost altogether.

135. The increased focus on structural adjustment, including reforms of education financing and managerial structures, calls for expanded provision of A&O Technical Assistance; there will also be a greater need for regional TAs to share experience and ideas among DMCs. Some DMCs have established areas of excellence and the Bank, through the provision of regional TAs, can act as coordinator and catalyst so that this expertise and experience can benefit the whole region. Compared with UNESCO and ILO which, traditionally, concentrate on catalytic functions, the Bank's advantage in this regard will be its stronger resource base and financial flexibility, although a close cooperation with both organizations will be mutually beneficial.

136. Another important operational instrument in supporting human resource development, beyond conventional lending and technical assistance operations, is the provision of non-project related scholarships funded by the Bank. In 1988, two scholarship programs have been institutionalized.

(i) The Japan-ADB Scholarship Program provides scholarships, normally, for post-graduate studies at a number of selected regional prestigious institutions, including the Asian Institute of Management (Philippines), the Asian Institute of Technology (Thailand), the University of Sydney (Australia), the East-West Center (USA) and the International Rice Research Institute (Philippines).

(ii) The Scholarship Program for Smaller DMCs aims at Bhutan, Lao PDR, the eight SPDMCs and the Maldives. It has the objective to sponsor short-term scholarships in specific fields of training for government-nominated candidates. This Bank-funded Program is being executed by the ILO.

137. Widening the Bank's operational spectrum beyond its traditional emphasis on education projects which are designed mainly to meet specific manpower requirements, calls for a more flexible application of the Bank's existing guidelines for the justification of education projects. In general, project appraisal should reflect the entire lending rationale, especially in the cases of primary education, adult literacy training and nonformal education. Projects should be conceived in the general context of the education sector or a particular DMC and with due regard for the financial resources available to meet

both capital and recurrent costs. Pertinent appraisal techniques, viz. manpower (labor market) analysis, cost-benefit analysis and cost-effectiveness analysis, will be used as appropriate, depending particularly on the nature of the investment under consideration.

138. The effectiveness of the Bank's operations in the education sector is often constrained by inadequacies of nonschool inputs such as lack of water, inadequate health conditions, poor transport and other basic facilities. This calls, in appropriate cases, for a better coordination of or integration with projects in other sectors. Stressing the subsectoral links between education and other sectors in such an integrated lending approach will be, in addition to increasing the effectiveness of education projects or project components, a significant contribution to poverty alleviation, particularly in poor rural communities.

139. The nature of some of the initiatives discussed above involves a higher probability (or "risk") that certain project preparatory activities will not, or at least not immediately, result in loan projects. The Bank, then, must accept or rather intentionally assume a role as advisory agent in the broader context of a diversified development assistance approach. Among other things, this could result in more emphasis on cooperation with other development agencies and, eventually, in an expansion of co-financing arrangements.

ANNEXES

Annex A

PERCENTAGE GROWTH RATE OF REAL GDP OF INDUSTRIAL AND DEVELOPING COUNTRIES 1960-1983

Country Group	1980 GDP P.C. (US $)	Percentage GDP Growth Rates					
		1960-1973	1973-1979	1980	1981	1982	1983
Developing Countries	650	6.3	5.2	2.5	2.4	1.9	1.0
Low-Income	250	5.6	4.8	5.9	4.8	5.2	4.7
Asia	250	5.9	5.2	6.3	5.2	5.6	5.1
PRC	290	8.5	5.7	6.1	4.8	7.3	5.4
India	240	3.6	4.3	6.9	5.7	2.9	5.4
Africa	250	3.5	2.1	1.3	1.2	0.5	-0.1
Middle-Income							
Oil Importing	1,500	6.3	5.6	4.3	0.9	0.7	0.3
East Asia and Pacific	1,110	8.2	8.6	3.6	6.7	4.2	6.4
Middle East and N. Africa	800	5.2	3.0	4.2	-2.4	5.5	2.0
Sub-Saharan Africa	610	5.6	3.7	5.5	3.9	1.1	0.3
Southern Europe	2,210	6.7	5.0	1.5	2.3	0.7	-0.9
Latin America and Caribbean	1,840	5.6	5.0	5.8	-2.3	-0.4	-2.2
Oil Exporting	1,320	6.9	4.9	-2.4	2.4	0.9	-1.7
High-Income							
Oil Exporting	14,250	10.7	7.7	7.4	0.0		
Industrial Market Economies	10,440	4.9	2.8	1.3	1.3	-0.5	2.3

Source: World Bank: *World Development Report 1984*, New York: Oxford University Press, 1984.

ECONOMIC INDICATORS OF DMCs BY EARLY OR MID-1980s

Country	Mid-Year Population 1985 in Millions	GNP P.C. 1985	GNP Growth Rates (%) 1965-1984	1980-1985	Percentage of GNP in Industry	Percentage of Labor Force in Manufacturing	Agriculture	Percentage of Exports from Manufacturing	Percentage of Female Labor Force
India	758.9	270	1.6	5.2	18	11	74	59	26
P R C	1,059.5	310	4.5	9.8	42	17	71		44
Hong Kong	5.5	6,230	6.2	5.9	24	35	2	92	38
Korea, Rep. of	41.2	2,150	6.6	7.9	32	22	24	92	38
Malaysia	15.6	2,000	4.5	5.5	19[c]	12	38	28	33
Singapore	2.6	7,420	7.8	6.5	27	24	1	51	37
Taipei,China	19.2	2,938	9.1	6.0	36	34	18	91	
Indonesia	166.4	530	4.9	3.5	31	13	53	9	36
Pakistan	100.4	380	2.5	6.0	21	15	51	63	9
Philippines	54.5	580	2.6	−0.5	28	9	47	27	38
Sri Lanka	16.2	380	2.9	5.1	18	8	37	29	26
Thailand	51.4	800	4.2	5.1	23	8	66	35	47
Bangladesh	101.1	150	0.6	3.6	9	9	58	61	9
Burma	37.2	190	2.3	5.5	11	9	66	6	
Viet Nam, Soc. Rep. of	59.7	110	3.8[a]	10.8[b]					
Afghanistan	16.5	233	2.1	2.2[b]	4	12	60	15	8
Bhutan	1.4	160	4.5[a]	5.6[b]					
Cambodia	7.3	80	−6.8[a]	−2.1[b]					
Lao PDR	4.1	135	1.8[a]	2.4[b]					
Nepal	16.5	160	0.2	3.4	5	1	91	31	35
Cook Islands	0.02	1,360	−0.9[a]	3.2[b]	6	7	29	55	30
Fiji	0.69	1,840	4.6	1.3	11	8	44	5	17
Kiribati	0.06	478	2.2[a]	3.9[b]				0.1	43
Maldives	0.17	447	13.0[a]	9.9[b]	6			6	37
PNG	3.50	680	3.6	1.3	9[c]	10	76	0.4	
Solomon Islands	0.27	640	7.5[a]	3.6		8	32	0.0	
Tonga	0.11	904	5.4[a]	8.6[b]	6	2	44	4	16
Vanuatu	0.14	590	4.7[a]	7.6		2	77	0.6	43
Western Samoa	0.16	635	2.1[a]	−1.0		8	11		15

[a] 1970-1984
[b] 1981-1984
[c] Manufacturing only. Malaysia = 35% for manufacturing and mining (petroleum and tin); PNG = 25% for manufacturing and mining (gold).

Sources: ADB: *Annual Reports (Current years)*. Manila: ADB.
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Annex C

PERCENTAGE SHARE OF LABOR FORCE AMONG ECONOMIC ACTIVITIES IN 1965 AND 1980 IN DMCs

Country	Agriculture		Industry		Services	
	1965	1980	1965	1980	1965	1980
India	73	70	12	13	15	17
P R C	81	74	8	14	11	12
Hong Kong	6	2	27	38	68	61
Korea, Rep. of	55	36	15	27	30	37
Malaysia	59	42	13	19	29	39
Singapore	6	2	27	38	68	61
Taipei,China	46	20	18	35	31	40
Indonesia	71	57	9	13	21	30
Pakistan	60	55	18	16	22	30
Philippines	58	52	16	16	26	33
Sri Lanka	56	53	14	16	30	33
Thailand	82	71	5	10	13	19
Bangladesh	84	75	5	6	11	19
Burma	64	53	14	19	23	18
Viet Nam, Soc. Rep. of	79	68	6	12	15	21
Afghanistan	69	60	11	12	20	19
Bhutan	95	92	2	2	4	5
Cambodia						
Lao PDR	81	76	5	7	15	17
Nepal	94	93	2	1	4	7
Cook Islands		29		7		24
Fiji		44[a]		8[a]		19[a]
Kiribati						
Maldives						
P N G	87	76	6	10	7	14
Solomon Islands		30		10		37
Tonga		44[a]		2[a]		19
Vanuatu		77		2		
Western Samoa		11		8		17

[a] 1976.

Sources: *Taiwan Statistical Yearbook 1985*. Taipei: Council for Economic Planning and Development, 1985.
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Annex D

NATIONAL SYSTEMS OF FORMAL EDUCATION IN DMCs

DMC	Compulsory Education		Entrance Age and Duration of Primary Education (P)[a] and General Secondary Education (S)[b]													
	Duration	Age Limits	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Afghanistan	8	7-15			P	P	P	P	P	P	P	P	S	S	S	S
Bangladesh	5	6-11		P	P	P	P	P	S1	S1	S1	S1	S1	S2	S2	
Bhutan					P	P	P	P	P	S1	S1	S1	S2	S2		
Burma	5	5-10	P	P	P	P	P	S1	S1	S1	S1	S2	S2			
Cambodia	6	6-12		P	P	P	P	P	P	S1	S1	S1	S1	S2	S2	S2
China, People's Rep. of[b]	9	7-16			P	P	P	P	P	S1	S1	S1	S2	S2	S2	
Cook Islands	10	6-16		P	P	P	P	P	P	P	P	S1	S1	S2	S2	
Fiji[b]				P	P	P	P	P	P	S	S	S	S	S	S	
Hong Kong[b]	9	6-15		P	P	P	P	P	P	S1	S1	S1	S1	S1	S2	S2
India	5	6-11		P	P	P	P	P	S1	S1	S1	S2	S2	S2	S2	
Indonesia	6	7-13			P	P	P	P	P	P	S1	S1	S1	S2	S2	S2
Kiribati[b]	5	6-10		P	P	P	P	P	P	S1	S1	S1	S2	S2	S2	
Korea, Rep. of	6	6-12		P	P	P	P	P	P	S1	S1	S1	S2	S2	S2	
Lao PDR	5	7-12		P	P	P	P	P	S1	S1	S1	S2	S2	S2		
Malaysia	9	6-15		P	P	P	P	P	P	S1	S1	S1	S2	S2	S2	
Maldives				P	P	P	P	P	S1	S1	S1	S1	S1	S2	S2	
Nepal	5	6-11		P	P	P	P	P	S1	S1	S2	S2	S2			
Pakistan			P	P	P	P	P	S1	S1	S1	S2	S2	S2	S2		
Papua New Guinea					P	P	P	P	P	P	S1	S1	S1	S1	S2	S2
Philippines	6	7-13			P	P	P	P	P	P	S	S	S	S		
Singapore[b]				P	P	P	P	P	P	S1	S1	S1	S1	S2	S2	
Solomon Islands[b]				P	P	P	P	P	P	S1	S1	S2	S2	S2		
Sri Lanka	10	5-15	P	P	P	P	P	P	S1	S1	S1	S1	S1	S2	S2	
Taipei,China				P	P	P	P	P	P	S	S	S	S	S	S	
Thailand	7	7-15			P	P	P	P	P	P	P	S1	S1	S1	S2	S2	S2
Tonga	6	6-14		P	P	P	P	P	P	S	S	S	S	S	S	S
Vanuatu				P	P	P	P	P	P	S1	S1	S1	S1	S2	S2	S2
Viet Nam, Soc. Rep. of	5	6-11		P	P	P	P	P	S1	S1	S1	S1	S2	S2	S2	
Western Samoa			P	P	P	P	P	P	P	S1	S1	S1	S1	S2	S2	S2

[a] The following countries allow for other alternatives:

PRC	—	6 years primary; 6 years secondary
Fiji	—	8 years primary; 4 years secondary
Hong Kong	—	5 years secondary
Kiribati	—	6 to 9 years primary
Singapore	—	6 years primary; 7 years secondary
Solomon Islands	—	6 years secondary

[b] S1 = secondary school, junior cycle
S2 = secondary school, senior cycle

Sources: *China Yearbook 1980*. Taipei: 1980.
UNESCO: *Statistical Yearbook 1986*. Paris: UNESCO, 1986.

Annex E
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KEY INDICATORS OF EDUCATION IN DMCs
1: ADULT LITERACY RATES AND GROSS ENROLLMENT RATIOS PRIMARY LEVEL IN EARLY OR MID-1980s[a]

DMC	Adult Literacy Rates[b]			Gross Enrollment Ratios Primary Level[c]		
	Total	Male	Female	Total	Male	Female
Afghanistan	20.0	33.2	5.8	16	22	10
Bangladesh	29.2	39.7	28.0	60	70	50
Bhutan	16.4			25	70	50
Burma	75.9			102		
Cambodia						
China, People's Rep. of	65.5	79.2	51.1	118	129	107
Cook Islands						
Fiji	82.4			100	111	109
Hong Kong	90.0			105	106	104
India	41.9	53.1	29.7	90	105	73
Indonesia	67.3	77.5	57.7	118	121	116
Kiribati	90.0					
Korea, Rep. of	88.0			96	96	96
Lao PDR	43.6	51.3	35.7	90	103	77
Malaysia	73.0	83.3	63.1	99	100	99
Maldives	82.0				76	
Nepal	20.6	31.7	9.2	77	104	47
Pakistan	26.2	36.0	15.2	43	68	35
Papua New Guinea	32.0			60	66	53
Philippines	87.0			107	106	107
Singapore	82.9	91.6	74.0	115	118	113
Solomon Islands						
Sri Lanka	86.1	90.8	81.2	103	105	101
Taipei,China	89.9	95.4	84.0	100		
Thailand	88.0	92.3	84.0	97		
Tonga	93.0			108	110	105
Vanuatu	52.9	57.3	47.8			
Viet Nam, Soc. Rep. of	84.5	90.5	78.3	113	120	106
Western Samoa				99	97	101

[a] Refers to the most recent year between 1980 and 1985 where pertinent data were available.
[b] Refers to the adult population 15 years of age and over.
[c] Expresses the total number of pupils of all ages enrolled at the primary level at one given point of time divided by the total population of the level-specific modal age (specified in Annex D). For further explanation see para 32, footnote 1.

Sources: ADB: *Key Indicators of Developing Member Countries of ADB*. Manila: ADB, 1986.
National Institute for Educational Research of Japan (NIER): *Educational Developments in Asia and the Pacific*. Tokyo: NIER, 1984.
Taiwan Statistical Yearbook 1985. Taipei: Council for Economic Planning and Development, 1985. UNESCO: *Statistical Yearbook 1986*. Paris: UNESCO, 1986.

KEY INDICATORS OF EDUCATION IN DMCs
2: GROSS ENROLLMENT RATIOS — SECONDARY LEVEL AND TERTIARY LEVEL ENROLLMENT IN EARLY OR MID-1980s[a]

DMC	Gross Enrollment Ratios Secondary Level[b]			Tertiary Level Enrollment		
	Total	Male	Female	Total	Male	Female
Afghanistan	8	10	5	1.4		
Bangladesh	18	26	10	4.9	7.9	1.8
Bhutan	4	6	1	0.1	0.1	0.0
Burma	24			5.1		
Cambodia						
China, People's Rep. of	37	43	31	1.4	1.9	0.8
Cook Islands						
Fiji	78	77	79	3.3		
Hong Kong	69	66	72	12.8	16.0	9.3
India	34	44	23	8.6[c]	12.7[c]	4.2[c]
Indonesia	39	45	34	6.5	8.9	4.2
Kiribati						
Korea, Rep. of	94	97	91	26.1	35.9	15.5
Lao PDR	19	22	15	1.4		
Malaysia	53	53	53	6.1	6.8	5.4
Maldives						
Nepal	23	35	11	4.8	7.4	1.9
Pakistan	15	20	8	2.0	2.8	1.1
Papua New Guinea	11	14	8	2.1	2.9	1.0
Philippines	68	65	71	27.7	26.8	28.5
Singapore	71	70	73	11.8	13.3	10.2
Solomon Islands						
Sri Lanka	61	58	64	4.1	4.6	3.6
Taipei,China	91	88	93	12.5	13.4	11.5
Thailand	30	31	29	22.5		
Tonga	96	97	94			
Vanuatu						
Viet Nam, Soc. Rep. of	52	56	48	2.2	3.4	1.0
Western Samoa				69	66	72

[a] Refers to the most recent year between 1980 and 1985 where pertinent data were available (exception see footnote c).
[b] Expresses the total number of pupils of all ages enrolled at the secondary level at one given point of time divided by the total population of the level-specific modal age (specified in Annex D).
[c] Data refer to 1975.

Sources: ADB: *Key Indicators of Developing Member Countries of ADB*. Manila: ADB, 1986.
National Institute for Educational Research of Japan (NIER): *Educational Developments in Asia and the Pacific*. Tokyo: NIER, 1984.
Taiwan Statistical Yearbook 1985. Taipei: Council for Economic Planning and Development, 1985.
UNESCO: *Statistical Yearbook 1986*. Paris: UNESCO, 1986.

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KEY INDICATORS OF EDUCATION IN DMCs
3: PUBLIC EXPENDITURES ON EDUCATION IN EARLY OR MID-1980s[a]

DMC	Total Public Education Expenditures As Per Cent of GNP	As Per Cent of Total Government	Current Expenditures As Per Cent of Total	Expenditures P.A. P.C. in US $
Afghanistan	2.0	12.7	90.0	66
Bangladesh	1.7	8.2	66.8	18
Bhutan			68.8	154
Burma	1.6[a]	12.2[b]	96.6[b]	14[b]
Cambodia				
China, People's Rep. of	2.8	8.1	84.2	42
Cook Islands		10.2	99.8	504
Fiji	6.4		99.1	429
Hong Kong	2.8	18.7	88.5	843
India	3.2	7.6	99.0	45
Indonesia	2.2	9.3		
Kiribati	8.7	16.8	100.0	124
Korea, Rep. of	4.8		79.3	357
Lao PDR				4
Malaysia	6.2	14.7	83.0	451
Maldives	0.6[c]	3.1[c]	95.5[c]	16
Nepal	1.8	10.0		22
Pakistan	1.8	5.0	73.1	60
Papua New Guinea	4.7	14.2	96.7	320
Philippines	1.3	10.4	91.0	45
Singapore	4.4	9.6	72.4	1,252
Solomon Islands	3.6	10.6	87.7	156
Sri Lanka	2.9	8.5	80.6	39
Taipei,China	4.2	16.3	77.9	518
Thailand	3.3	20.6	70.6	114
Tonga		37.1		192
Vanuatu				
Viet Nam, Soc. Rep. of				
Western Samoa			89.7	64

[a] Refers to the most recent year between 1980 and 1985 where pertinent data were available (exceptions see footnotes b and c).
[b] Data refer to 1977.
[c] Data refer to 1978.

Sources: ADB: *Key Indicators of Developing Member Countries of ADB*. Manila: ADB, 1986.
National Institute for Educational Research of Japan (NIER): *Educational Developments in Asia and the Pacific*. Tokyo: NIER, 1984.
Taiwan Statistical Yearbook 1985. Taipei: Council for Economic Planning and Development, 1985.
UNESCO: *Statistical Yearbook 1986*. Paris: UNESCO, 1986.

Annex F

EVOLUTION OF FISCAL REPORT FOR EDUCATION
(PUBLIC EXPENDITURE ON EDUCATION
AS PER CENT OF TOTAL BUDGET)
IN DMCs FROM 1965 TO 1984[a]

Country/Region	1965	1970	1975	1980	1984
China, People's Rep. of	—	—	4.2	6.1	8.1
NICs					
Korea, Rep. of	17.2	21.4	13.9	23.7	—
Singapore	—	11.7	8.6	7.3	9.6
Hong Kong	14.8	22.8	20.7	14.6	18.7
Taipei,China	13.2	16.5	14.2	15.1	16.3
ASEAN					
Indonesia	—	—	13.1	8.9	9.3
Malaysia	18.5	17.7	19.3	14.7	—
Philippines	—	24.4	11.4	9.0	10.4
Thailand	20.1	16.7	21.0	20.6	—
Other Southeast Asia					
Burma	14.7	19.4	15.3	12.2	—
Cambodia	18.5	14.2	—	—	—
Lao PDR	8.1	10.8	—	1.3	—
Viet Nam, Soc. Rep. of	—	—	—	—	—
South Asia					
Afghanistan	11.2	—	—	12.7	6.4
Bangladesh	14.4	14.6	13.6	8.2	—
Bhutan	—	—	—	—	—
India	8.7	10.7	8.6	10.0	7.6
Maldives	—	—	—	3.0	—
Nepal	8.2	6.7	11.5	10.0	—
Pakistan	5.3	4.2	5.2	5.0	—
Sri Lanka	14.7	13.6	10.1	8.8	8.5
Pacific					
Cook Islands	—	—	—	13.1	10.2
Fiji	—	—	—	15.6	19.5
Kiribati	—	—	—	—	16.8
Papua New Guinea	14.4	13.2	—	14.2	—
Solomon Islands	8.7	11.7	—	10.6	—
Tonga	17.5	15.7	12.7	11.9	37.1
Vanuatu	—	—	—	—	—
Western Samoa	—	20.0	—	20.5	—

[a] When data were not available for the year given in the heading of the table, available closest to that year are shown.

Sources: UNESCO: *Literacy Situation in Asia and the Pacific — Country Studies*. Bangkok: UNESCO (ROEAP), 1985.
UNESCO: *Statistical Yearbooks 1980-1986*. Paris: UNESCO, 1980-1986.
World Bank: *Financing Education in Developing Countries*. Washington, D.C.: World Bank, 1986.
Unpublished Country Reports prepared for the 40th Session of the International Conference on Education, Geneva, 1986.

Annex G

EVOLUTION OF NATIONAL EFFORT FOR EDUCATION (PUBLIC EXPENDITURE ON EDUCATION AS PER CENT OF GNP) IN DMCs FROM 1965 TO 1984[a]

Country/Region	1965	1970	1975	1980	1985
China, People's Rep. of	—	—	1.8	2.5	2.8
NICs					
Korea, Rep. of	1.8	3.7	2.2	3.7	4.8
Singapore	4.3	3.1	2.9	2.9	4.4
Hong Kong	2.5	2.9	2.7	2.5	2.8
Taipei,China	2.4	3.4	3.1	3.6	4.2
ASEAN					
Indonesia	—	2.5	3.0	1.9	2.2
Malaysia	4.7	4.3	6.3	6.2	6.4
Philippines	2.6	2.6	1.9	1.6	1.3
Thailand	2.6	3.5	3.6	3.3	3.9
Other Southeast Asia					
Burma	2.7	3.1	1.7	1.6	—
Cambodia	3.7	3.8	—	—	—
Lao PDR	2.4	2.5	—	—	—
Viet Nam, Soc. Rep. of	—	—	—	—	—
South Asia					
Afghanistan	0.8	1.2	1.3	2.0	—
Bangladesh	1.3	2.2	1.2	1.7	1.9
Bhutan	—	—	—	—	—
India	2.5	2.8	2.8	3.0	3.2
Maldives	—	2.3	—	0.6	—
Nepal	0.6	0.6	1.5	1.8	2.8
Pakistan	1.8	1.7	2.2	1.8	2.1
Sri Lanka	4.5	4.3	2.8	3.1	2.9
Pacific					
Cook Islands	—	—	—	—	—
Fiji	3.4	4.2	4.7	5.1	6.4
Kiribati	—	5.0	4.9	12.3	8.7
Papua New Guinea	4.9	4.8	7.7	4.7	—
Solomon Islands	—	—	—	3.6	—
Tonga	—	—	2.8	2.8	—
Vanuatu	—	—	—	—	—
Western Samoa	—	8.4	—	—	—

[a] When data were not available for the year given in the heading of the table, available closest to that year are shown.

Sources: UNESCO: *Literacy Situation in Asia and the Pacific — Country Studies*. Bangkok: UNESCO (ROEAP), 1985.
UNESCO: *Statistical Yearbooks 1980-1986*. Paris: UNESCO, 1980-1986.
World Bank: *Financing Education in Developing Countries*. Washington, D.C.: World Bank, 1986.
Unpublished Country Reports prepared for the 40th Session of the International Conference on Education, Geneva, 1986.

Annex H

RATES OF RETURN (IN PER CENT) TO INVESTMENT IN EDUCATION BY LEVEL OF EDUCATION IN SELECTED DMCs IN VARIOUS YEARS

Country	Year	Secondary Rate of Return			Private Rate of Return		
		Primary	Secondary	Higher	Primary	Secondary	Higher
India	1965	13.4	15.5	10.3	17.3	18.8	16.2
	1978	29.3	13.7	10.8	33.4	19.8	13.2
Hong Kong	1976		15.0	12.4		18.5	25.2
Korea, Rep. of	1967		9.0	5.0			
	1969		11.0	9.5			
	1971		14.6	9.3		16.1	16.2
	1973		12.2	8.8			
	1980		8.1	11.7			
Malaysia	1978					32.6	34.5
Singapore	1966	6.6	17.6	14.1		20.0	25.4
Taipei,China	1970		26.5	15.0		17.6	18.4
	1972	27.0	12.3	17.7	50.0	12.7	15.8
Indonesia	1977				25.5	15.6	
	1978	21.9	16.2	14.8			
Pakistan	1975	13.0	9.0	8.0	20.0	11.0	27.0
	1979				14.6	6.7	9.4
Philippines	1971	7.0	6.5	8.5	9.0	6.5	9.5
	1977			8.5			16.0
Thailand	1970	30.5	13.0	11.0	56.0	14.5	14.0
	1972	63.2	30.9	18.4			

Source: G. Psacharopoulos: Return to Education: A Further International Update and Implications. *Journal of Human Resources*, Vol. XX, No. 4, 1985.

Annex I

LIST OF BANK LOAN PROJECTS[a]
IN EDUCATION SECTOR AS OF 31 DECEMBER 1987

Loan No.	Project	Loan Amount ($ mn)	Year of Approval
373-BAN(SF)	Education Equipment Development Board	6.000	1978
510-BAN(SF)	Community School	13.500	1981
699-BAN(SF)	Secondary Science Education Sector	37.000	1984
722-BHU(SF)	Second Multiproject (Royal Institute of Management)	2.300	1984
244-INO	Surabaya Institute of Technology	14.500	1975
356-INO(SF)	Senior Technical Schools	24.000	1978
402-INO(SF)	University of Hasanuddin	25.000	1979
488-INO	Second Senior Technical Schools	26.000	1980
525-INO	University of North Sumatra	26.000	1981
574-INO	Vocational Education	40.000	1982
675-INO	Agricultural Education	68.000	1983
715-INO	Third Senior Technical Schools	83.000	1984
737-INO	University of Sriwijaya	37.900	1985
804-INO	Ministry of Public Works Manpower Education Training	29.000	1986
822-INO	Special Project Implementation Assistance	30.600	1986
90-KOR(SF)	Vocational Training Institutes	3.700	1972
807-KOR	Marine Science Education	53.000	1986
476-MAL	Vocational Education	20.000	1980
673-MAL	Second Vocational Education	58.000	1983
840-MAL	Third Vocational Education	68.800	1987
315-NEP(SF)	Vocational Education	4.200	1977
599-NEP(SF)	Science Education	8.000	1982
419-PAK(SF)	Technical Teachers Training & Polytechnic Institutes	21.000	1979
448-PAK(SF)	Textbook Printing	10.000	1979
759-PAK(SF)	Science Education for Secondary Schools Sector	28.800	1985
551-PNG	Technical Education	8.000	1981
552-PNG(SF)	Technical Education	8.000	1981
306-PHI	Engineering Education	16.000	1977
531-PHI	Technical & Vocational Education	27.000	1981
60-SIN(SF)	Ngee Ann Technical College Expansion	3.000	1970
486-SIN	Vocational Industrial Training	19.000	1980
585-SRI(SF)	Technical Education	16.100	1982
156-THA(SF)	Vocational Education	3.100	1973
157-THA	Vocational Education	3.300	1973
441-THA(SF)	Second Vocational Education	15.000	1979
TOTAL		856.800	

[a] SF = Loans from the Bank's Special Funds (ADF).

Annex J

LIST OF BANK TECHNICAL ASSISTANCE PROJECTS[a] IN EDUCATION SECTOR AS OF 31 DECEMBER 1987

TA No.	Project	Type[b]	Amount ($)	Year of Approval
Regional TAs				
5070	Regional Seminar on Planning, Management & Evaluation of Technical/Vocational Education Projects	Reg	75,000	1980
5088	Second Regional Seminar on Tech. Educ'n.	Reg	75,000	1981
5126	Joint ADB/ILO (APSDEP) Regional Seminar on the Training of Instructor Trainers	Reg	200,000	1983
5130	Regional Seminar on the Evaluation & Monitoring of Education Projects	Reg	145,000	1983
5187	Regional Workshop on Training for Entrepreneurship & Self-Employment	Reg	186,000	1985
5211	Seminar on Distance Education	Reg	248,000	1986
5231	Regional Workshop on Technical Teacher Training	Reg	115,000	1986
5240	Review of Education	Reg	75,000	1987
	Sub-Total		1,119,000	
Country TAs				
232-APG	Vocational Education	PP	97,200	1978
206-BAN	Educational Equipment Development	PP	80,000	1977
220-BAN	Rural Vocational Training Institutes	PP	147,000	1977
503-BAN	Secondary Schools Science Education	PP	150,000	1983
845-BAN	Secondary Science Education Sector	A&O	2,020,000	1987
920-BAN	Post-Secondary Science Education	PP	150,000	1987
564-BHU	Royal Institute of Management	PP	45,000	1983
324-BUR	Technical & Agricultural Education	PP	190,000	1979
127-INO	Surabaya Institute of Technology	PP	143,000	1974
195-INO	Senior Technical Schools	PP	196,000	1977
223-INO	University of Hasanuddin	PP	205,000	1977
274-INO	University of North Sumatra	PP	246,000	1978
323-INO	Second Senior Technical Schools	PP	92,000	1979
345-INO	Vocational Schools	PP	329,000	1980
494-INO	Agricultural Education	PP	238,000	1982
528-INO	University of Sriwijaya	PP	200,000	1983
633-INO	Manpower Training	PP	150,000	1984
702-INO	Second Vocational Education	PP	250,000	1985
844-INO	Marine Sciences Education	PP	350,000	1987
711-KIR	Technical & Vocational Education	PP	150,000	1985
531-KOR	Vocational Training	PP	100,000	1983
758-KOR	Marine Science Education	PP	75,000	1986
170-NEP	Vocation Education	PP	95,000	1976
408-NEP	Science Education	PP	155,000	1981
536-NEP	Technical Schools	PP	150,000	1983
883-NEP	Teacher Education	A&O	350,000	1987
339-PAK	Agro-Technical Education	PP	147,000	1980
604-PAK	Science Education Project for Sec. Schools	PP	150,000	1984
806-PAK	Second Polytechnics Education	PP	150,000	1986
907-PAK	Primary Education (Girls)	PP	150,000	1987
609-PNG	Accounting Education Master Plan	A&O	95,000	1984
773-PNG	Rationalization and Savings in Higher Education	A&O	314,000	1986
335-PHI	Vocational-Technical Education	PP	190,000	1979
513-PHI	Agricultural Education	PP	215,000	1983
868-PHI	Agricultural Technology Education	PP	75,000	1987
405-SIN	Vocational & Industrial Training	A&O	542,720	1981
353-SRI	Technical Education	PP	150,000	1980
705-SRI	Accounting & Audit Education Master Plan	A&O	158,000	1985
808-SRI	Second Technical Education	PP	294,000	1986
400-THA	Agricultural Education	PP	230,000	1981
884-THA	Govt. Manpower Planning & Info. System	A&O	350,000	1987
810-VAN	Vocational Training	PP	75,000	1986
122-VIE	National Vocational Training Center	PP	44,000	1974
	Sub-Total		9,682,920	
	GRAND TOTAL		10,801,920	

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Reg = Regional TA; PP = Project Preparatory TA; A&O = Advisory and Operational TA.

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